The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

HOUSTON
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FT. WORTH
TULSA
CHICAGO

Vol. 34. No. 4 JULY 19, 1924 10 Cents Per Copy

A Prescription for Coupling Troubles
"Specify Harrisburg"
a double strength coupling of forged seamless steel! A coupling that—
—will not gall under the most severe strain.
—will not strip, no matter how often it is unscrewed or "made up".
—will not get out of shape—it has a perfect thread and perfect taper.
—will not "give way" to the utmost abrasion on the outside surface.
—will not develop leaks.
Harrisburg Pipe & Pipe Bending Co.
Harrisburg, Pa.
Distributors:
Harrisburg Pipe & Pipe Bending Co. of Texas, Inc., Houston, Texas
Goddard-Thomas Manufacturing Company, Tulsa, Okla.
Superior Tube Co., Tulsa, Okla.

HARRISBURG

Forged Seamless Steel Couplings

"OILWELL"
TRADE MARK
The clank of our tools is heard 'round the world, and the sun ever shines upon some product of our industry.
7579 feet

This "OILWELL" Engine Drilled the World's Deepest Well

Almost a mile and a half down into the bowels of the earth—7,579 feet—and the "Oilwell" engine met successfully every test put upon it by such unusually deep work!

Think of the weight of cable—a mile and two-fifths of dead weight to be lifted and dropped time after time.

Think of the strain on the engine. But the sturdy, reliable "Oilwell" engine met every test.

Whatever is needed for the oil fields, "Oilwell" carries it in stock in their eighty branch stores.

Bulletin No. 24 on "Oilwell" Engines will interest you. Send for a copy today.

OIL WELL SUPPLY COMPANY

PITTSBURGH, U. S. A.

New York San Francisco Los Angeles
Tampico London

OILWELL SUPPLY CO

World's Largest Manufacturers of Oil Field Equipment

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

nk Him Fo
And All the M

The next time you're struck by the unusually efficient workmanship of Gaso Pumps, think of the Gaso workman. He's responsible.

He lives in the oil capital of the world, and is proud of his part in the industry. He's seen field, refinery and pipe line conditions at first hand, and knows what oil industry equipment must put up with.

He is aware of the reputation that Gaso Pumps have earned, and realizes his responsibility in upholding it.

Do the results show in the finished product—Gaso Pumps? Ask the fellows who use them!

Gaso Pump & Burner Mfg. Co.
TULSA, OKLAHOMA

Gaso Walking Beam Pump for Gas or Vacuum. Constructed to stand world of abuse.

Gaso Duplex Piston Steam Pump. Will perform same service as pumps of much more costly design. One of a complete family.

12" Discharge pump: biggest ever built in Midcontinent

GASO PUMPS
for oil Industry uses

The A B C of Vents
OCECO Vent Units

(1) Represent the safest and most improved method of venting of tanks;

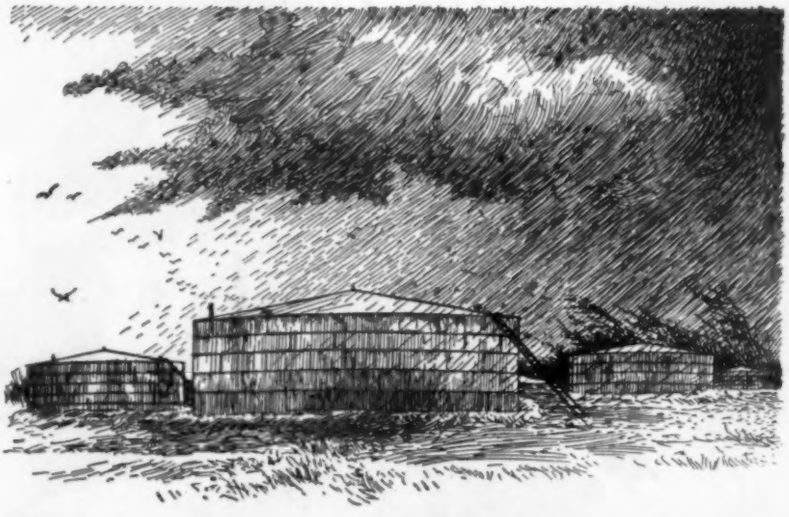
(2) Used by leading oil companies of the country;

(3) Equipped with flame arrestors approved by The Underwriter's Laboratories, Inc.

OCECO Free Vent Unit (Type A)

OCECO Conservation Vent Unit (Type B)

OCECO Emergency Safety Vent Unit (Type C)



Your Tanks
Will They Stand the Test?

The hot days of midsummer.

Roofs and interior gases heated to a high temperature—vents emitting gases. Possibly, a strain on the roof—a pull on the top rings of the tanks.

A thunderstorm!

The heavens open up—a deluge of cold water—a quick contraction of the gases within the tanks due to the cooling action of the rain—excessive vacuum and a downward pull on the roof.

What happens?

It depends on your vents.

It is of utmost importance that:

(1) The maximum conditions be considered in setting up the size of these vents;

(2) That knowledge be had as to the capacity flow at various pressures of the different sizes and types of vents;

(3) That the proper type of vent be used for the various classes of tanks.

The OCECO Schedule and Charts explain how to properly equip tanks so as to eliminate any chance of injury, and also absolutely safeguard them against fire. We shall be glad to send these upon request.

THE OIL CONSERVATION ENGINEERING CO.

Manufacturers of fire-prevention and evaporation-prevention equipment for tanks

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OCECO

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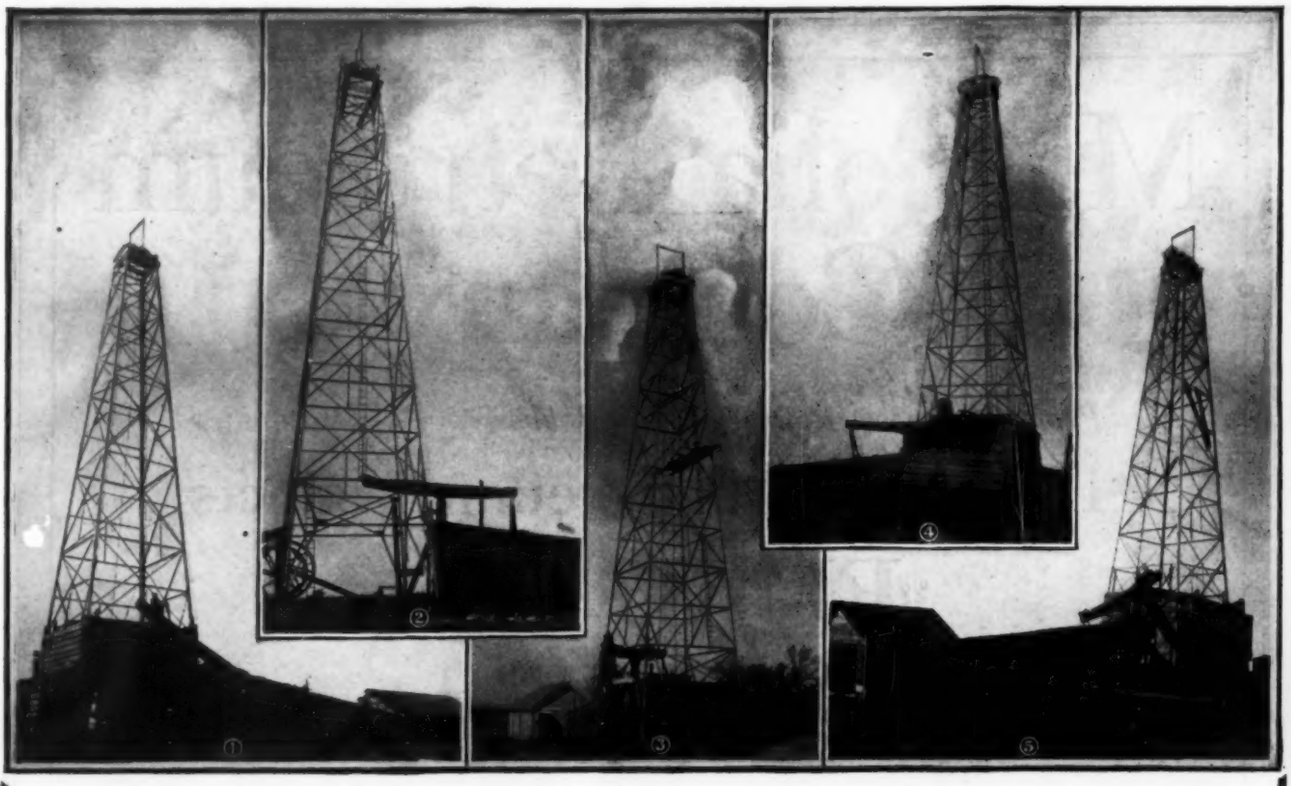

A GROUP OF IDECO STEEL REENFORCED (Galvanized) DERRICKS IN TEXAS

These five IDECO Steel Derricks (Re-enforced—Galvanized) are in the service of one of the large producing companies in the Breckenridge, Texas district. This same company has a number of IDECO Steel Derricks "on the job" at Breckenridge and other fields in the Mid-Continent

It Is DERRICK PERFORMANCE Which Counts

STRENGTH is a known factor in IDECO STEEL DERRICKS and Strength combined with Correct Design means performance. They are built of Beams, Bars, Angles—the same kind of Steel Construction that goes into our modern skyscrapers and into the bridges which span our great rivers.

Behind IDECO STEEL DERRICKS is an Engineering Service specializing in Oil Country Practice. There are many patented features. Down to the smallest detail of design and fabrication, including galvanizing, IDECO products are built in our own Shops.

Your every day protection and certainty of performance is built into each item of IDECO STEEL EQUIPMENT. The hazards of wind and fire—the emergency demands which experience has shown must often be met in the Oil Country—these chances with your profits have all been considered in IDECO engineering, selection of the strongest material (no seconds or rejects) and in the most careful methods of fabrication and inspection.

The experience of the many producers using IDECO equipment is convincing—such experience has sustained IDECO reputation for delivering continuous maximum production everywhere oil is found.

There is a specified IDECO Steel Rig for your every requirement. An IDECO Steel Reenforced Drilling Program makes possible the definite saving of Thousands of Dollars. When drilling is completed, reenforcing can be moved to other drilling locations leaving the original towers for production service.

You Will Find IDECO STEEL DERRICKS In Every Field

The International Derrick & Equipment Co.

Columbus, Ohio

Branch Offices and Warehouses

Tulsa Shreveport Houston Casper Los Angeles Taft

The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries

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Producer *Refiner* *Jobber* *Distributer*

High Grade Petroleum Products

FUEL OIL

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MANUFACTURER OF

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"A Grade for Each Condition"

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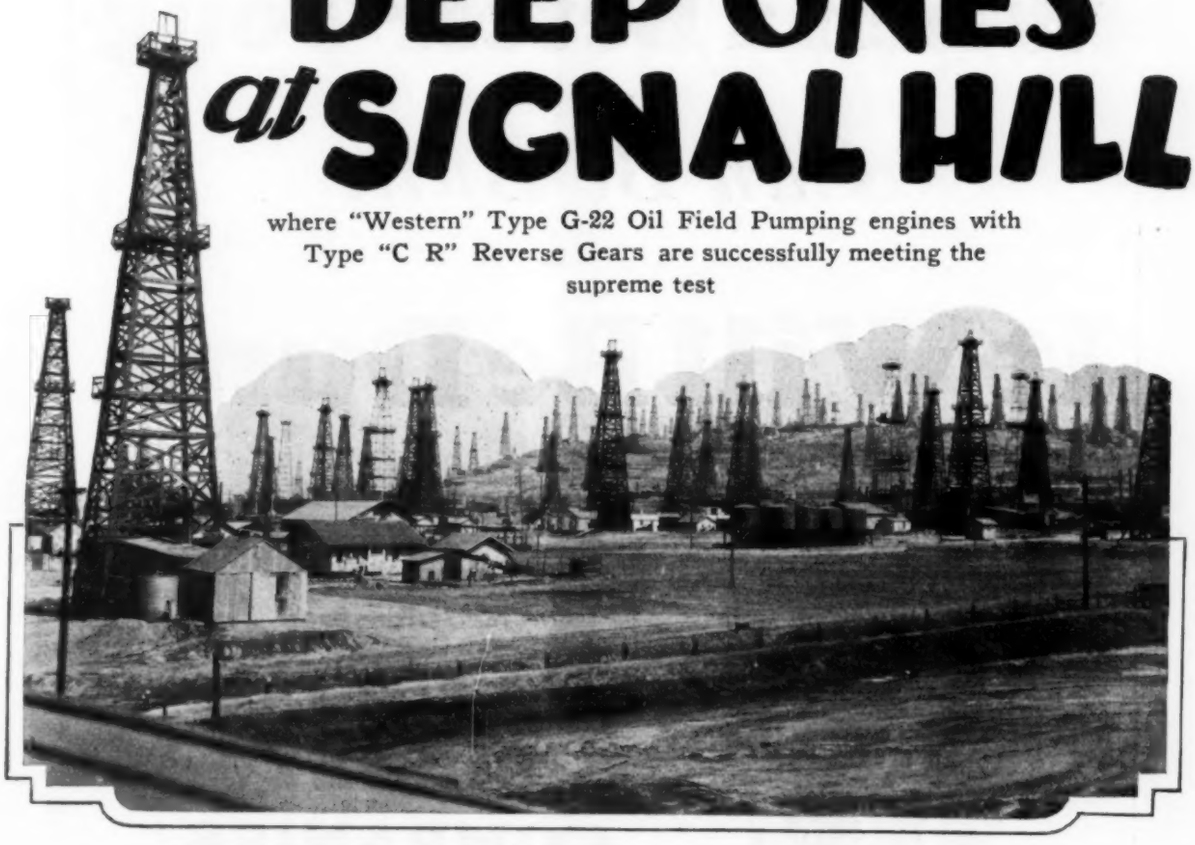
where "Western" Type G-22 Oil Field Pumping engines with Type "C R" Reverse Gears are successfully meeting the supreme test



Ten Wells in Foreground "Western" Equipped

There were many who said that such deep holes never could be pumped with gas engines, but we are doing it, providing all the flexibility and speed for cleaning that the steam units offered, and at a greatly reduced expense.

"Western" Oil Field Pumping Engines and Reverse Gears are built for economy and speed, and for operating conditions not met by others. Sizes 25, 30 and 40 H. P.

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Can Be Built

It Will Be Dunn

Type "CX"

Carried in Stock by

NATIONAL SUPPLY COMPANIES

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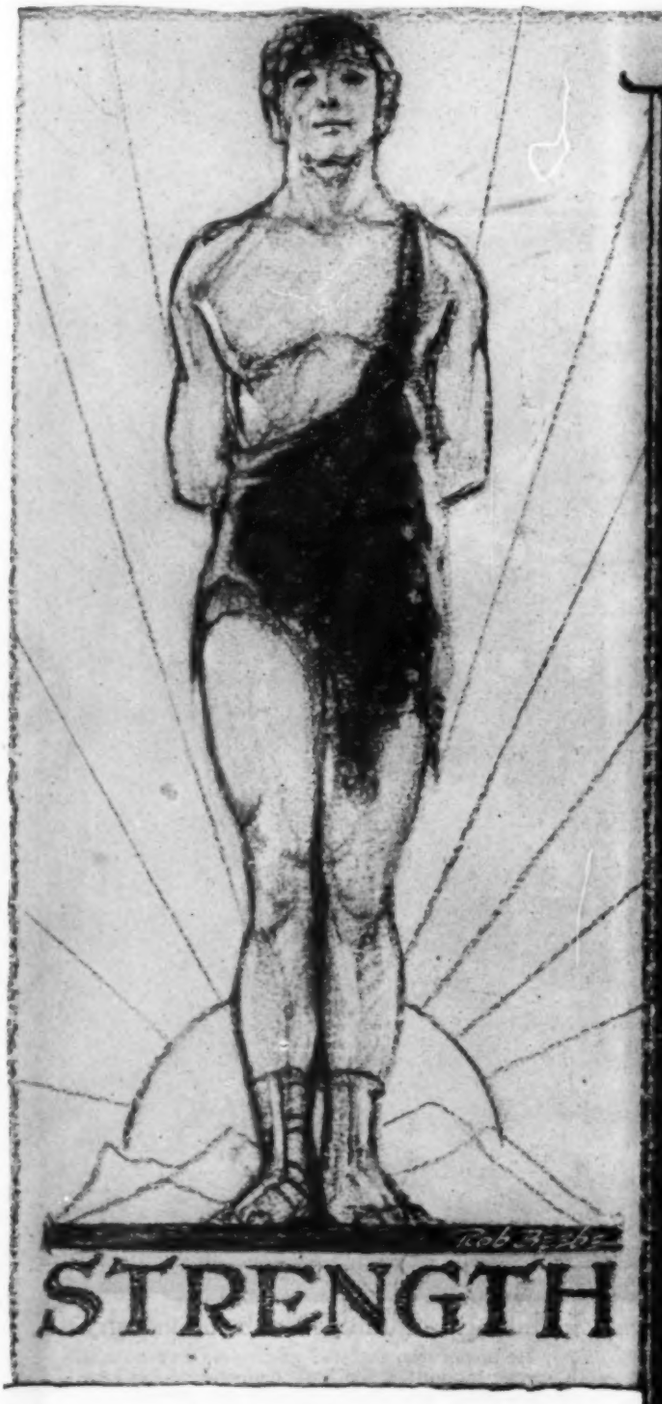

Jones Sucker Rods are Strong!

FOR INHERENT STRENGTH—NO SUCKER ROD MADE EQUALS JONES.

We use steel of special analysis, made to our own specifications—based on our score and a half years experience. We don't take the mill's word that the steel is right. In our own laboratories we test every length of rod, for structure, for uniformity.

We use testing machines especially made for this service, so that we know when JONES RODS go into the field they will render complete satisfaction.

We invite those companies who employ technical engineers or maintain laboratories to make a comparative test of JONES RODS —we have no doubt of the result!

THE S. M. JONES COMPANY

TOLEDO, OHIO.

Established 1893

Mid-Continent Office: 601 Wright Bldg., Tulsa, Okla.

Representatives Everywhere There's Oil.

JONES ACME Steel SUCKER RODS

The Westcott Valve Company are *specializing* in high-grade Valves for the *oil industry.*

They know conditions in this field, and have introduced many improvements and refinements into the design and manufacture of pipe line, refinery, and drilling gate valves.

The Westcott Valve Company now have probably the world's largest output of pipe line valves. They also make a complete line of iron and steel gate valves for refineries, with special mountings for high temperature cracking. A superior line of steel drilling gates is also offered.

We believe the Westcott to be the best designed and constructed valve on the market. It is distributed exclusively by THE CONTINENTAL SUPPLY COMPANY.

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just tell us your needs

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Branch stores in 23 of the leading oil field towns in Oklahoma, Kansas, Wyoming, Colorado and Texas.

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Light—Easily Handled yet *Brutally Strong*

Flexible Montgomery Slip — *A Tifoco Product* — Offers 10 Big Advantages—See Them for Yourself:

It's the design and CONSTRUCTION of the new, flexible MONTGOMERY SLIP that makes it so superior to anything now on the market. Chrome alloy steel construction (no castings) gives a tool that is surprisingly light and yet practically INDESTRUCTIBLE. In all the Montgomery offers ten practical advantages over other slips—each one a point in favor of its adoption:

(1) The Montgomery is LIGHT, yet exceedingly strong.

(2) Handles are long and roomy enough for two-handed use.

(3) Just the right amount of flexibility to take care of irregularities of the pipe.

(4) Slips are extra-long—more gripping surface than any other.

(5) Slip sectors are DROP FORGINGS of chrome alloy steel—no castings.

(6) In the extremely unlikely event of breakage, safety bolts prevent any sector from being lost in hole.

(7) All parts are interchangeable—carried in stock by stores of distributors.

(8) No sector grips harder than the other—damage to pipe is prevented. (Slips are vertically non-adjustable, flexibility being circumferential only.)

(9) Hollow back design allows slip sector to rest snugly within rotary bushing under all conditions. This permits use of all sizes (6", 5½", 4", 3" and 2½") within table bushings of all popular makes of rotaries WITHOUT ADAPTERS.

(10) Superior metal and correct hardening of Montgomeries keep wickers in condition longer than cast-steel slips; yet when necessary to re-sharpen the job is done quickly and efficiently.

The Montgomery is one of a line of TIFOCO Quality Oil-Field Tools. All that we ask is that you try it and judge for yourself. Further details gladly furnished on request.

Note those long, easy-to-grip handles

See that shoulder that prevents undesirable vertical movement.

Slips are hardened to depth of wicker only.

The slip segments are held by power hinge pins and nuts.

The Titusville Forge Company

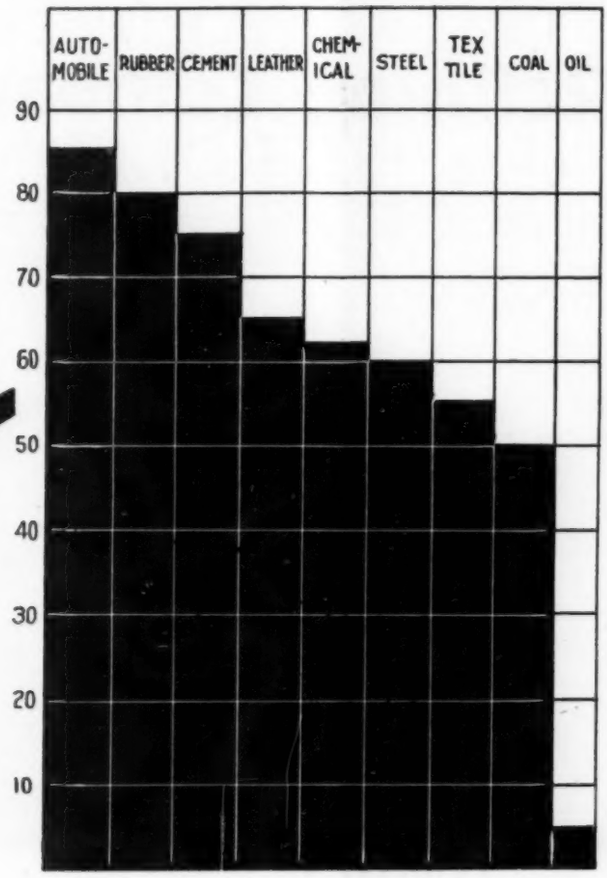
Titusville, Pa.

Distributed by all branches of Continental Supply Co., and for export by the Continental Supply Co., Inc., 2 Rector St., New York.
Special Representative in Mid-Continent: L. S. Allen, Care of Rex Machinery & Supply Co., Tulsa.
Special Colorado and Wyoming Representative: L. E. Nebergall, 1375 Lincoln St., Denver Colo.

THE MONTGOMERY SLIP

Offers 10 Practical Advantages—a TIFOCO Product

Percent Electrified



Why Other Industries Have Electrified

—Your Problem is No Different.

Coal mines—50% electrified, are producing coal at a greatly reduced cost per ton.

Steel mills—60% electrified, have practically eliminated all power and standby losses.

Automobile factories—85% electrified, maintain their tremendous production with minimum power costs by using electric drive.

In the oil fields the problem is practically the same. These and many other advantages can be obtained by electrification. Your problem is no different. Let Westinghouse engineers help you solve it.

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Westinghouse Electric & Manufacturing Company
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Sales Offices in all Principal Cities of the
United States and Foreign Countries.

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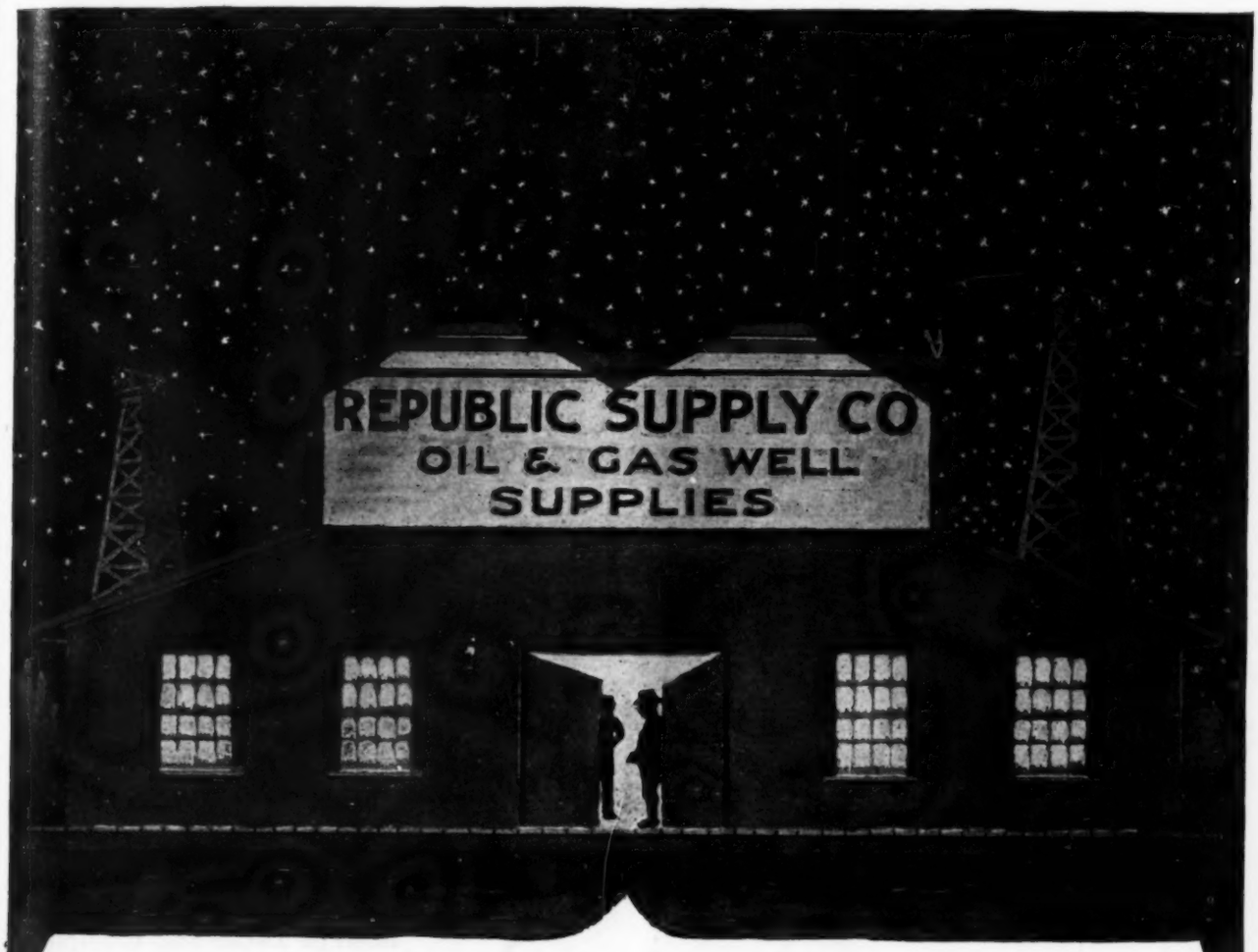

Day and Night Service

There's a Republic Supply Store near your well, ready to supply you at any hour of the day or night, with oil field equipment of known dependability, such as

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.

Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe.

Jones' Acme Sucker Rods.

American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.

American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.

Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits, and Hughes Special Milling Cutters.

Bovaird & Seyfang, and McNamar Oil Field Boilers.

Jones' Acme Gas Engines.

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Republic Supply Company

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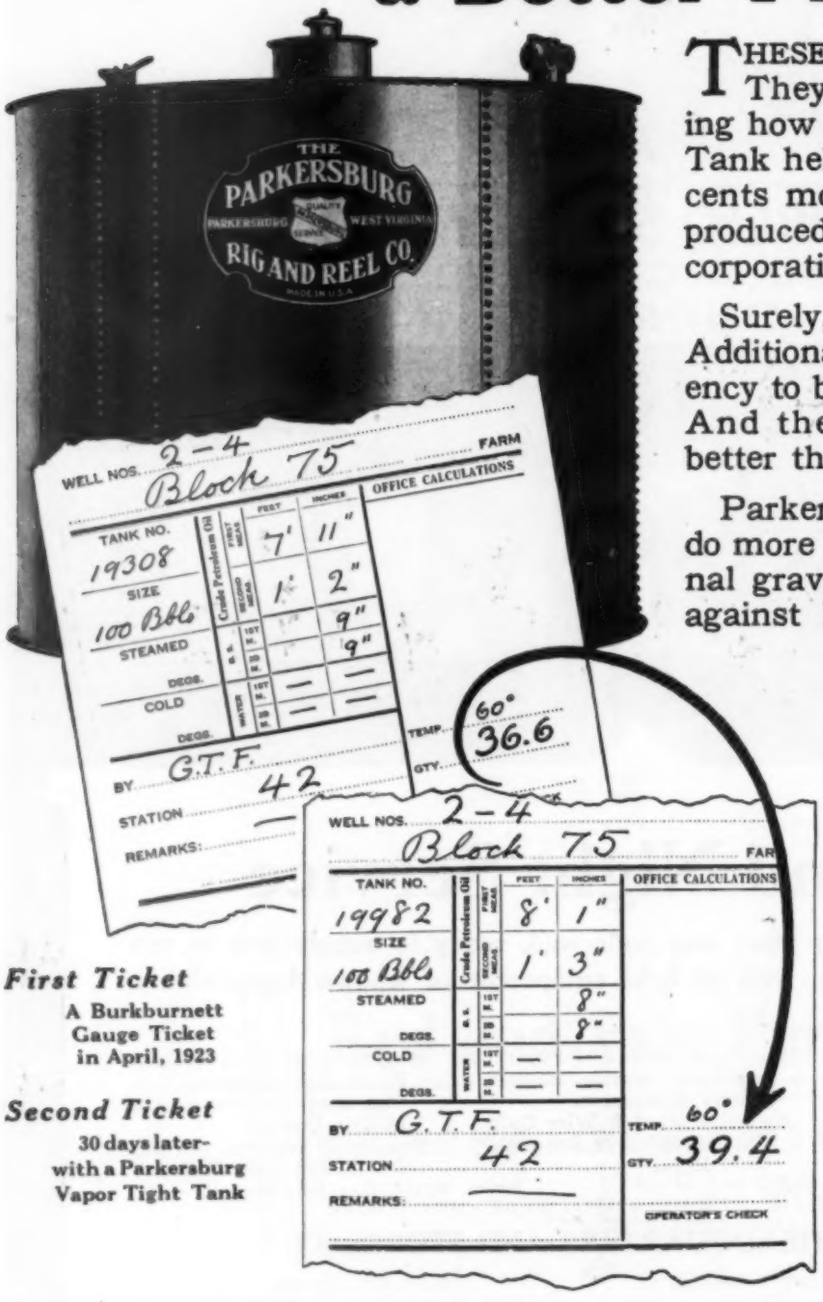
A Better Tank *and* a Better Price for Oil



First Ticket
A Burkburnett Gauge Ticket in April, 1923

Second Ticket
30 days later—with a Parkersburg Vapor Tight Tank

THESE gauge tickets tell the story. They are a definite record showing how a Parkersburg Vapor Tight Tank held up gravity and brought 40 cents more per barrel for the crude produced by this nationally known corporation. (name on request)

Surely, here is a worthwhile saving. Additional profits because of the tendency to buy crude on a *gravity* basis. And the higher the gravity—the better the *price*.

Parkersburg Vapor Tight Tanks do more than hold crude to its original gravity—they hold every barrel against losses through evaporation.

PARKERSBURG Service includes complete installations of Tanks and Equipment for retaining gas with crude at pressures consistent with customers' requirements, or for separation of gas for manufacture of gasoline or use as fuel.

Parkersburg Vapor Tight Equipment can be applied to any steel tank of any capacity although best results are obtained when this equipment is used with Parkersburg Bolted Steel Tanks.

Ask our representatives how Parkersburg Vapor Tight Equipment does this. Or write for information.

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
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Every Part Interchangeable—
Quick Replacements!

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A MONUMENT TO A THOUGHT

Every installation of KEROTEST VALVES and FITTINGS is a steel monument to the paramount thought of its designer —"Safety under the most trying conditions, dependable functioning under sudden tremendous pressures caused by gas pockets."

Kerosene tested under high pressure, perfect in balance and in alignment of all parts, KEROTEST Valves and Fittings are truly monuments, surpassing even the expectations of its designers and constructors.

Write today for the KEROTEST Catalogue that gives complete details of this remarkable line of steel valves and fittings.

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PITTSBURGH, PA.

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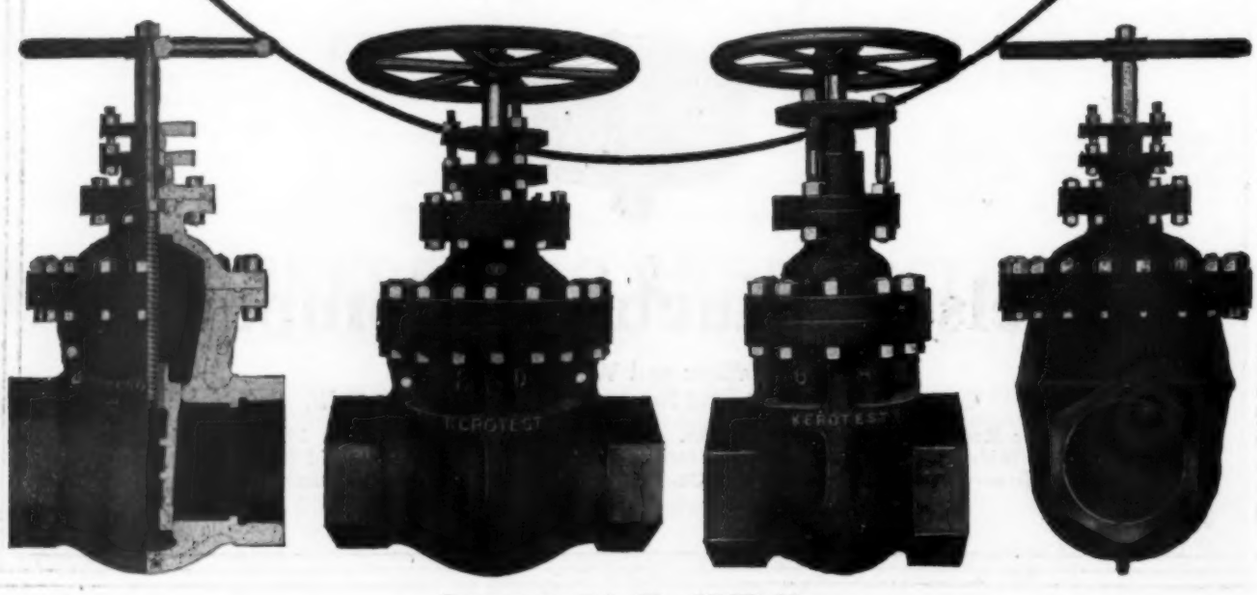

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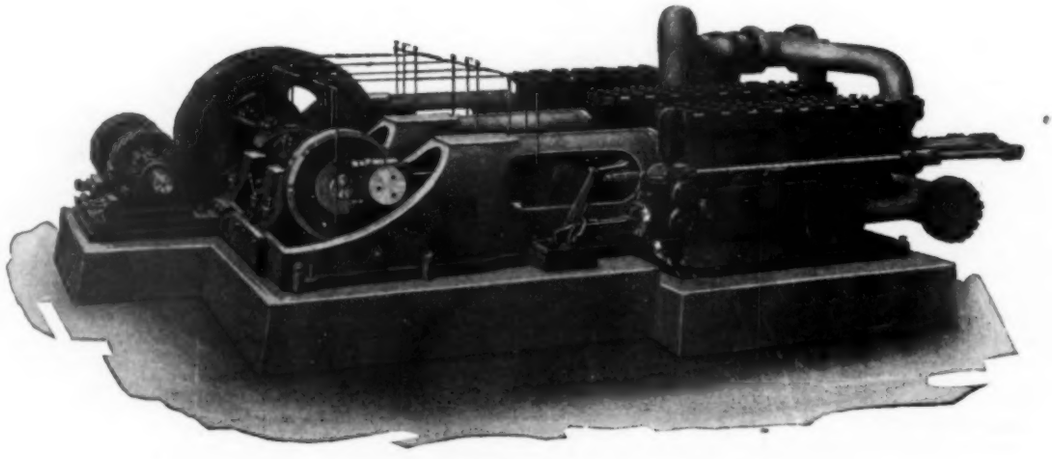
RANGER



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What a Pipe Line Pump Should Be.

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THE OIL WEEKLY

An International Oil Publication for Oil and Gas Producers

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Sinclair Cuts Price on High Gravity Crude

New price basis ends proration plan and similar action expected from other Mid-Continent buyers

By J. Kent Ridley

Changes in the gravity basis which was in effect a reduction in price by the Sinclair Crude Oil Purchasing Company, applying to all oil purchased by that company in Oklahoma, Kansas and Texas, constituted the principal change in the crude market during the week. This company made two changes; the second, effective July 15, lowers the top grade the company purchases to 33 gravity, so that it now posts but three grades, as follows: Below 30 degrees, $1.25; 30 to 32.9 degrees, $1.45; 33 degrees and above, $1.75. This is equivalent to reducing the highest grade of Mid-Continent crude 50 cents per barrel.

The Sinclair Company is now taking all oil offered at these prices, abrogating the previously announced 50 per cent proration.

None of the other major purchasers had met this adjustment up until Wednesday morning, but the Prairie is expected to make an announcement soon. The opinion was expressed in Tulsa by some that this announcement will include the establishment of an entirely new schedule for all grades that will closely approximate the present scale of the Magnolia Petroleum Company.

Champlin Refining Company of Enid, Okla., one of the largest independent purchasers in Oklahoma of premium crude, effective July 15, lowered its price for 42 gravity and above 25 cents per barrel, making the new price $1.75, in line with the Sinclair level.

The Texas Company Tuesday morning instituted in Oklahoma its 50 per cent proration plan which has been in effect in North Texas for some time. Under this plan the company agrees to buy half and store the other for account of the producer.

Reasons for Sinclair Cut

Sinclair Crude Oil Purchasing Company's decision to do away with the top grades for oil the company buys was brought about chiefly by these reasons:

Since much of the overproduction in North Texas, Oklahoma and Kansas is in pools of high gravity oil, Sinclair felt, it was said, that the posted price of $2.25 for the top grade of Mid-Continent crude was out of line with the amount of income to be derived from refining this oil under present conditions in the refined oil market.

Doing away with the top grade and making 33 gravity and above its highest priced oil, Sinclair felt, would be a further check on field operations in the flush pools that are causing much of the present overproduction since most of the oil from these pools tests high.

With crude stocks already large and with the gasoline season already well under way, Sinclair was unwilling to materially increase its supply of high gravity crude at the existing price under present market conditions.

Oklahoma production shows an increase of about 4000 barrels daily for the week, but it now appears that the independent operators are curtailing the drilling of new wells, as evidenced by a slight decrease in the number of permits. Overlapping of reports previously had indicated that the operators were going ahead full speed, but the effect of warnings of the major companies and of the corporation commission of Oklahoma is now becoming apparent.

Wildcatting, according to the week's completion reports, is a thing of the past, all completions being in proven areas. Oklahoma wildcat drilling wells have been shut down until the situation rights itself.

Refined oil market in the Mid-Continent continues tendency toward softening.

Pipe Line Runs

The Prairie Pipe Line Company's report shows that 3,547,891 barrels were

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The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business, or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose interest in the oil industry is through the purchase of oil stock.

R. L. DUDLEY, Publisher.

moved through that company's lines during June, while the Empire Companies' lines for the same period received 802,604 barrels and delivered 672,411 barrels. Stocks of the latter, as of July 1, were 3,227,428 barrels. Figures on other companies in the Mid-Continent are not available.

North Texas

Effective July 16, The Texas Company readjusted prices in North Texas in line with the Sinclair list. This does not affect their proration policy, but effective immediately The Texas Company will reduce storage charges from three cents to two cents per barrel per month. Two cents has been the customary charge and the higher rate was established on June 1st at a time when The Texas Company was crowded for storage space. Since then this situation has been relieved through shipments through the Prairie's lines in connection with supply of The Texas Company's refinery in Illinois.

Another interesting feature of the storage policy is that The Texas Company will require payment of storage charges monthly in cash, where heretofore the practice has been to let the charges accumulate to be taken out of the oil when moved.

Extensive pipe line extensions by the Magnolia Petroleum Company, details of which will be found elsewhere in this issue, will have a bearing on the future handling of oil from the Mid-Continent. Further line extensions include a four-inch line building by the Wichita Pipe Line Company from the Wilmot-Wilson pool in the upper part of Archer County to the Swastika pool in the southwestern part of the county. This line will deliver oil to Wichita County refiners who are joint owners of the pipe line company.

Gasoline buyers are staying out of the North Texas market in anticipation of crude price reductions and refiners are not able to move their stocks of new navy at the prevailing 8¼ cents per gallon. What little buying is done is on a hand to mouth basis.

The refiners in the North Texas district are getting all the crude they want below the prices of the major purchasers, and are in position to carry on until the crude market again tightens up, as they are now in position to dictate the price they will pay for crude.

Louisiana-Arkansas Area

Reduction of prices will not affect operations at Cotton Valley, which is now the active field in North Louisiana. The potential oil and gas area revealed by developments in this sector is so divided as to ownership that development will be continued.

Shreveport district refiners are reported to have sold about 140 cars of gasoline last week to an export buyer.

Arkansas heavy oil production shows a loss of about 4000 barrels daily average over the report for the previous period. Oil of 14 degrees, a considerable quantity of which has been accumulated in storage at Irma, has begun moving over a new rail line built to the field, the movement being in trainload quantity.

California

California production continues to show a daily average decline of 4500 barrels each weekly report, but this decline is not sufficient to relieve the situation which now is expected to be clarified by a reduction in price which was not considered probable at this time until announcement was made of the downward tendency in the Mid-Continent as evidenced by the Sinclair Company's posting of last Saturday and again Tuesday when the second adjustment of gravity was made. However, any cut that may be made can have but little if any effect upon field conditions in California.

Another contingency in the California situation is the imminence of a cut in the price of gasoline through a price war. Navy gasoline can be bought in some instances at 8½ cents f.o.b. tanker and could be purchased at considerably less in the tanks at refineries not having pipe line connections to the wharf. Natural gasoline remains unchanged, the ruling price being 10 cents, with some moving slightly lower.

During the week it became known that the Union Oil Company of California had contracted to deliver 500,000 barrels of California crude to the Atlantic Oil Refining Company, the price not being made public. The oil will be handled out of Los Angeles harbor to Philadelphia in tankers chartered by the Atlantic from The Texas Company. It is said that C. C. Julian has about half a million barrels of Long Beach and Torrance crude that can be bought now at the posted price. He had been asking a small premium.

Standard Oil Company (New Jersey) has leased five steel tanks from the California Petroleum Company in connection with the handling of crude now being taken under contract between them. California Petroleum Company is now building a skimming plant to run about 5000 barrels daily, which would indicate that crude sold to the New Jersey company will be topped here, the tops going to the Atlantic coast and the fuel to storage in California.

Rumors of pending purchase of the California Petroleum Company by the Standard Oil Company (New Jersey) have been current, and recently a party of officials from the East were on the ground investigating the ability of the California Company to deliver oil under purchase contract. A substantial loan was proposed to enable the purchase of oil, additional leases and to build a refinery and pipe lines, but no crude was found available and the pipe line was not built and probably will not be. It is understood that some money was advanced and more is available if necessary.

Movement through Los Angeles harbor shows a reduction in the amount of crude oil, but fuel and refined products show a healthy increase.

Adjudication of Claims On Red River Bed Begun

Washington, D. C., July 15.—Adjudication of the claims filed on lands in the Red River oil district was begun today by the secretary of the interior, following receipt of recommendation from thhe commissioner of the general land office. Adjudication of these claims was authorized by congress in legislation enacted on March 4, 1923, but the work could not be started until jurisdiction over the lands in controversy was surrendered to the interior department by the United States supreme court, which occurred on June 30th.

Of a total of 178 applications before the general land offices, the report to secretary showed, only 16 were not conflicting. The commissioner has recommendation awards in the case of 36 claims, two of which were uncontested, and the rejection of all others. These recommendations do not bind the government to issue oil leases to the applicants to whom awards are made, it is pointed out, but merely settles the rights between rival claimants.

All claimants whose applications are rejected by the general land office in its recommendations have until August 31 in which to file an appeal with the secretary of the interior.

Notice of appeals also will be served on all other conflicting claimants, who are allowed until September 15 to make a reply.

The report of the general land office recommends awards on one claim filed by claimants in the District of Columbia, 11 from Colorado, 3 from Indiana, 12 from Oklahoma and 9 from Texas.

Canadian Oil Producers Organize Association

Petrolia, Ont., July 11.—At a meeting held here this afternoon under the chairmanship of I. Greenizen of Petrolia, operators in the Ontario shallow fields organized a Crude Petroleum Producers Association.

The following officers were elected: Honorary President, Dr. C. O. Fairbank, Petrolia; President, I. Greentzen, Petrolia; First Vice President, J. E. Armstrong, Petrolia; Second Vice President, A. W. Parks, Oil Springs; Secretary-Treasurer, Walter P. Rawley, Petrolia; Executive, John Anderson, Oil Springs; N. Wade Bothwell; Wm. McIntosh, Petrolia; E. P. Rowe, Toronto. The New Brunswick field will name one representative on the executive, and two additional members representing other districts will be added by the executives themselves. Annual fees were placed at $2 for operators up to 25 wells, and $5 over that number.

The primary purpose of the association is to secure the retention of the government bounty on crude oil, which on July 1 was cut from 52½ cents a barrel to 26¼ cents, and on July 1, 1925 is to be wiped out entirely. To this end, the federal government will be asked to make an official investigation of the condition of the industry, which, it is claimed, with the loss of the bounty, reductions in crude oil prices and the high tariff on materials imported for use in the industry, cannot carry on successfully.

The new organization will be affiliated with the Natural Gas and Petroleum Association of Canada, which is working primarily for the betterment of conditions in the natural gas industry. The headquarters of the Crude Oil Producers Association will be at Petrolia, Ont.

Magnolia Pushing $10,000,000 Line Program

Looping of existing lines to materially increase capacity from Mid-Continent to Gulf; Rushing gas line to Beaumont

By H. H. King

Dallas, Texas, July 14.—The Magnolia Petroleum Company and its new subsidiary, the Magnolia Gas Company, are now in the midst of an oil and gas pipe line construction program in the Mid-Continent and Gulf Coast districts representing an expenditure of approximately $10,000,000, and the most recent pipe line work to be undertaken by the former company is the addition of 78 miles of 8-inch loops to its trunk line system extending from the upper part of the Mid-Continent district to its Corsicana junction station in East Central Texas. This company's 8-inch line consisting of 180 miles of welded pipe from the Luling, Texas, field to Hull pump station, and 20 miles of 8-inch loops from Hull station to its Beaumont refinery, will be completed and placed in operation before the close of the present month, while the Magnolia Gas Company is making good progress on the construction of its huge gas line from the Cotton Valley field, Webster Parish, Louisiana, via the gas field of Panola County, Texas, to Magnolia Petroleum Company's refinery at Beaumont.

G. O. Carter, consulting engineer Linde Air Products Co., New York, making a tack for the first joint of the Magnolia Gas Company's welded line, near Kirbyville, Texas.

Additional 8-inch loops to be placed on Magnolia Petroleum Company's trunk line system from Oklahoma south as far as the Corsicana station will increase the capacity of this system about 10,000 barrels to a total of 55,000 barrels daily, varying according to the grades of crudes handled, and will enable the company to broaden its scope of operations in the Mid-Continent district. In recent months its own production together with outside crude purchases have been slightly in excess of pipe line facilities for the district. Magnolia's crude runs from Oklahoma and Kansas fields during June amounted to 33,928 barrels daily, while shipments from this area for the same period amounted to 33,033 barrels, making it necessary to add slightly to its stocks in these two states as has been the case in previous months, and stocks now amount to approximately 8,405,000 barrels. This Mid-Continent pipe line system also serves the North Texas district oil field, where the company's runs during June amounted to 8888 barrels and shipments were reported at 8620 barrels daily.

Operate in September

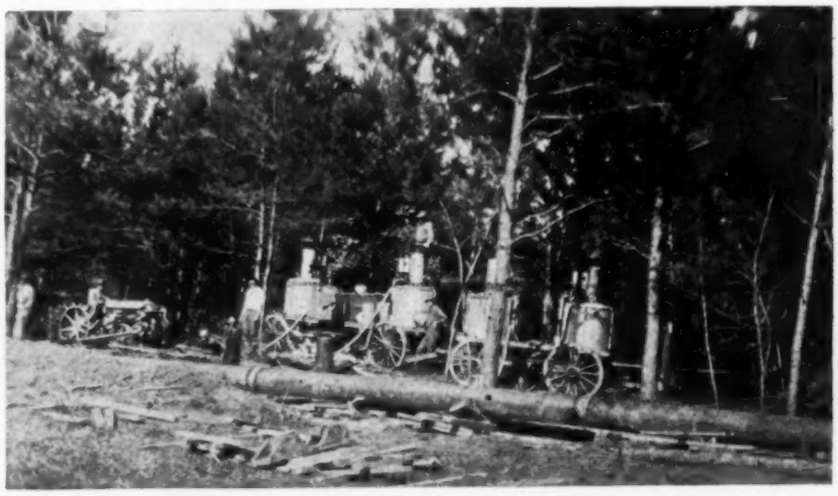
Screw pipe has already begun moving from the steel mills for the proposed loops, and it is planned to have the additional transportation facilities in operation by September 15. Two separate loops aggregating 45 miles of pipe are to be added to Magnolia trunk system from Corsicana to Fort Worth, a distance of about 75 miles, to afford the company the equivalent of three 8-inch lines between these two points. In Oklahoma a 25-mile 8-inch loop is to be strung from Duncan station across of Stephens, Garvin, McClain and Cleveland counties to the Purcell station, then a 13-mile loop is to be extended north out of Purcell.

Can Handle 80,000 Barrels

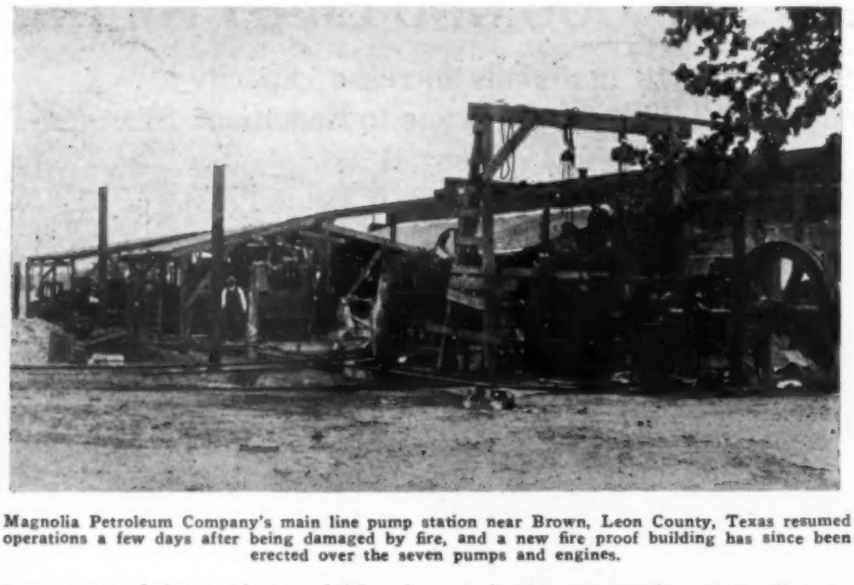
Magnolia's pipe line system from Corsicana on south to its tank farm and principal refinery, located at Beaumont, was greatly enlarged last summer to handle the flood of oil purchased by the company during the hectic days of the Corsicana-Powell field, andis now rated good for about 70,000 barrels daily, but will be increased to 80,000 barrels daily from Hull station to the refinery. A loop consisting of 20 miles of 8-inch pipe is nearing completion between Hull and Beaumont, and was added to accommodate the increased runs that will result by the operation of the new Luling line. The Luling extension will have a daily capacity varying from 18,000 to 19,000 barrels of Luling crude with four pump stations scattered along the 180-mile haul. Luling crude has an asphalt base, and tests between 27 and 28 gravity.

The Magnolia Gas Company's huge welded gas line will cost approximately $7,500,000 when completed and placed in operation about January 1, 1924, and will have a daily capacity of 65,000,000 cubic feet of gas. The company was recently organized, as has been previously announced, under the laws of Delaware, with a capital stock of 100,000 shares of non-par value, and maintains headquarters on the fifteenth floor of the Magnolia Building, Dallas. Fred M. Lege, Jr., of Dallas, a veteran gas company executive and formerly identified with the Lone Star Gas Company, is president of the Magnolia Gas Company, and is personally supervising the construction work on the new line.

Three different sizes of pipe are being used in this gas line, with the



Space cleared in the heart of an East Texas forest for the generating units on the Magnolia Gas Company's welded line, with the tractor shown pumping water in the line for high pressure test.



Magnolia Petroleum Company's main line pump station near Brown, Leon County, Texas resumed operations a few days after being damaged by fire, and a new fire proof building has since been erected over the seven pumps and engines.

greater part being made up of 16 and 18-inch pipe, while 14-inch pipe will be used from the Cotton Valley field to the booster station at De Berry, located in the Panola County, Texas, gas field. About 65 miles of 18-inch pipe will be used on the lower end of the line. Most of the pipe is in 17½-foot joints, and such short lengths are being used to enable the steel mills to speed up deliveries.

Large Gang Working

The initial step towards actual construction work on the line was taken recently at Kirbyville, Jasper County, Texas, and last reports state that six miles of 16-inch had been welded to the north of this point, while about 10 miles of 18-inch pipe was completed to the south. Field headquarters have since been moved from Kirbyville to San Augustine. Approximately 1000 men are at work in constructing this line and erecting booster stations. Stations are now under way near the towns of Bethany and Pineland, where 5000 horsepower equipment is being installed.

The route to be traversed by this gas line leads through numerous swamps, across any number of streams, and through the heart of the East Texas timber belt. The pine and cypress trees grow close together in their respective forests, and the pipe line gangs are often forced to cut their way through to permit the passage of the ditching machine and welding equipment. The welding crews are made up into gangs of 24 men each, and each gang has four generating units to supply the gas for welding. In order to save time and speed up operations these generating units are moved only every other day, and the gas is fed to the welders through a 1½-inch line, which is in 105-foot sections. This gas feed line is about 3000 feet in length, and permits the welding of about 6000 feet of pipe from one setting of the generating units. When the workmen reach the end of their feed line the 105-foot lengths are "snaked" by a team of mules farther down the route to be taken.

A small tractor plays an important part in the construction of this line, as it is used to throw about three feet of slack in the line every 100 feet for a sinuous line, thereby allowing for contraction and expansion. This sinuous line is then forced in a straight ditch. This tractor is also used to drive a 4-inch centrifugal pump to fill the completed line with water for a high pressure test.

Carter Oil Company Buys Cromwell Seminole Land

Tulsa, Okla., July 12.—The Carter Oil Company, Mid-Continent subsidiary of the Standard Oil Company of New Jersey, consummated a deal today with Joseph H. Cromwell, discoverer of the Cromwell pool of Seminole County, Oklahoma, for the latter's properties in that pool.

The properties include producing wells, four drilling wells, three rigs standing and 860 acres of leases in the proven area of Cromwell. The price paid by the Carter Company is reported to be $2,500,000, of which amount Cromwell will receive $1,225,000. The Lorraine Petroleum Company of Tulsa will have a small interest with Carter in the development of the newly acquired properties.

The consummation of the deal marks the second purchase of a standard subsidiary in Seminole County in the past year, the Dixie Oil Company having purchased the properties of R. H. Smith in the Wewoka field for $3,000,000 just about a year ago.

It is reported that Cromwell will donate a fourth of his share of the sale to the Boy Scouts of America in appreciation of the benefits derived by his son, Joseph I. Cromwell, Jr., an Eagle Scout of Muskogee. He also plans to make a large donation to the churches of Muskogee. Just after the opening of the city of Cromwell he donated a lot and personally paid for the erection of a Baptist church for the new community.

Although Cromwell sold his properties to the Carter Company, he will still retain the royalties on all leases which he owns in the field, which is all but three small tracts.

Humble Moves North Texas Pump Station

Corsicana, Texas, July 17.—Work has been started on the building of a permanent pumping station, to be built at Mildred by the Humble Oil and Refining Company. Material is being moved from Chambers Creek, the site of the old station, to the location of the new station, and when completed, the Mildred station will be permanent and will represent an expenditure of several thousand dollars.

The change is being made from Chambers Creek in order to get nearer the tank farm. Chambers Creek is quite a distance from the farm. With the station at Mildred oil can be taken directly from the tanks to the pumping plant, thereby effecting considerable economy in handling.

International Pete Gets Big Concession in Peru

Toronto, Canada, July 11.—Contemplated extensions of the International Petroleum Company's South American holdings are about to be realized with the announcement here that the Peruvian government has approved another oil concession of some 700,000 acres to International Petroleum. The new concessions are located near to the properties now held in the southern republic, comprising some 400,000 acres in the La Breay Parinas estate.

International is in the market for 40,000 tons of line pipe to be used in the company's contemplated pipe line project linking its producing fields in Colombia with the coast. International Petroleum is a subsidiary of Imperial Oil, Limited.

Barr Now Chairman of Board of National Cos.

Toledo, Ohio, July 14.—James H. Barr of Toledo has resigned as president of the National Supply Company of Delaware and subsidiary concerns to take the position of chairman of the board. This position was created by the company's directors at Mr. Barr's request.

John M. Wilson has been elected president of National Supply and John A. Geismar has been elected vice president and general manager. Mr. Geismar succeeds to the positions recently vacated by Paul N. Boggs, who now is connected with the California subsidiaries of the National. Both Mr. Wilson and Mr. Geismar have been connected with National Supply for many years and are thoroughly conversant with the requirements of the company to permit of continuous growth.

In connection with his ascension to the chairmanship, Mr. Barr stated: "The change in no wise implies a less personal contact on my part with the general supervision of the companies' business and affairs."

A. P. I. Outlines Plan On Standardization

Asks for suggestions and criticisms on movement—Report shows committees working

New York, July 15.—At the annual meeting of the American Petroleum Institute, held in St. Louis in December, 1923, it was decided to create a division of standardization in the institute to co-operate with and assist in correlating the standardization and simplification work already under way. Several committees have been in operaion for the past two years on various subjects and in some cases the work has been completed and is practically ready for final recommendation to the board of directors.

In order to carry on the work in a comprehensive way the following plan has been drafted by the institute for the consideration and criticism by those interested. Suggestions for desirable modifications should be made within the next two weeks.

The plan as suggested by the institute follows in detail:

Fundamental Purpose of Plan

"The fundamental purpose of the plan is to bring about the adoption of such specifications and methods as meet with the practically unanimous approval of the producers of crude oil and the manufacturers of equipment.

"It is not the purpose of the plan to impose specifications upon persons not desiring to use them, or to carry the standardization to a point where there is danger of interference with individual initiative and with the progress of invention.

"The agencies through which the work will be done are:

"(1) The board of directors.

"(2) The general committee on standardization.

"(3) The special committees on standardization.

"(4) The director of standardization.

Functions of Agencies

"The board of directors is the governing body of the institute, and as such has authority to direct the work, and to adopt, modify or reject proposed A. P. I. specifications and standards. It may act through committees of the board, but no specifications nor standards shall be considered final except when approved by the board itself in accordance with the by-laws.

"When the board of directors shall have determined upon a subject to be investigated, it will appoint a committee of the oil industry, and related industries, where advisable, including a temporary national chairman, to be known as the 'special committee on the standardization of ——— of the American Petroleum Institute.'

"It will be the duty of the temporary national chairman to call the committee together and to organize by the appointment of a permanent national chairman, vice chairman and secretary.

"It shall be the function of the special committees to canvass the industry as to the desirability and practicability of standard A. P. I. specifications in relation to the subjects referred to them, and to recommend to the general committee on standardization, hereinafter referred to, what action, if any, shall be taken in relation to any proposed standards. The special committee shall have power to appoint district subcommittees where advisable.

"The general committee on sandardization of the American Petroleum Institute shall consist of the national chairmen of the various special committees. Such general committee shall have the power to elect a chairman, vice chairman and secretary; and it will be its function to consider all reports of the various special committees on standardization, and to make final recommendation to the board of directors as to what action shall be taken in relation thereto.

"The director of standardization of the American Petroleum Institute shall co-operate with the various committees above referred to in such manner as the board of directors shall direct.

General Provisions

"It shall be the duty of the various committees and of the director of standardization to give the widest possible publicity to all proposed tentative standards and to seek the criticism and guidance of the users and manufacturers of oil country equipment.

"No expense on behalf of the American Petroleum Institute shall be incurred by any of the foregoing committees without the written consent of the board of directors of the American Petroleum Institute.

Present Status of Committees

"Following is a list of the various committees at present:

"Committee on Standardization of the Board of Directors—W. S. Farish, chairman; J. F. Lucey, E. C. Lufkin, J. E. O'Neil, A. A. Moody, F. H. Hillman and R. L. Welch.

The General Committee on Standardization—J. Edgar Pew (vice president Sun Oil Company, Dallas, Texas), national chairman of special committee on standardization of specifications for steel and iron pipe for oil country use; Grant Hubley (vice president and general manager Oil Well Supply Company, Pittsburgh, Pa.), national chairman of special committee on standardization of cable tool joints; H. J. Lockhart (assistant to president, Parkersburg Rig and Reel Company, Parkersburg, W. Va.), national chairman of special committee on standardization of rig irons; Captain J. F. Lucey, national chairman of special committee on the standardization of rotary drilling equipment, including rotary tool joints; A. B. Steen (chief engineer, The Texas Company, Houston, Texas), national chairman of special committee on the standardization of boilers; R. D. Gwynne (purchasing agent, Gypsy Oil Company, Tulsa, Okla.), national chairman of special committee on the standardization of belting. Special Note: Mr. Gwynne has resigned on account of ill health. It is hoped, should his health permit, that he will continue as chairman).

"Wire Lines — Subject designated. No committee has been formally appointed. However, the wire line manufacturers have been investigation the subject. Mr. H. J. Leschen has been acting as chairman for them. A full committee of users and manufacturers will be appointed in the near future.

Derricks—Steel and Wood. Subject designated. Committee to be appointed."

Royal Dutch Gets Gas Concession in Borneo

Batavia, Java.—The "Javasche Courant of March 28, 1924, published four concessions which had been granted to the Royal Dutch Petroleum Company in the northern part of the Island of Borneo, three of them being for "bitumineuse gasvermige zelfstandigheden", which is stated to be merely gas, although the literal translation of the words would be "bituminous gaseous substances." Experts in the matter state that this form of expression is used to distinguish the natural gas from swamp gas. In case oil is struck while boring for gas, the company holding the concession to that particular territory for gas would undoubtedly be able to obtain a contract for the exploitation of the oil deposits as it would not be practicable to grant two different concessions for the same territory where drilling operations would have to be undertaken to reach the material comprehended in each of the concessions.

The concessions is for 75 years in each case. Three are for gas and one for petroleum; their respective territories run from 988 hectares to 1,000 hectares, all in the Samarinda Division of the Residency of South and East Borneo—the same district as the big fields of the Royal Dutch Company in that division.

Oil Consumption in Chili 30 Per Cent. Over 1923

Santiago, Chili. — Imports of kerosene and gasoline into Santiago, Chili, during March and April, 1924, were limited to isolated shipments for small buyers, both the Anglo-Mexican Company and an American company selling from stocks already on hand. Sales for April in the Santiago district, the only one in which recent information is available, show an improvement over March. The increasing number of automobiles and trucks in the city have raised the consumption of gasoline about 10 per cent. Kerosene sales are up about 5 per cent. The increase of gross sales for the first quarter of 1924 over 1923 amounts to about 30 per cent.

Warehouse in Relation to Production Cost

A well laid out plant can materially reduce handling costs which are charged against production

By Harry Pennington

A CAREFULLY planned field warehouse plant for handling the various materials, tools, equipment and supplies and maintaining equipment and tools in good working condition is well worthy of the time required for study and arrangement.

A well laid out warehouse plant can reduce handling costs, prevent re-handling losses, facilitate deliveries, protect equipment from deterioration from weather, keep equipment in repair and discard all unserviceable items, and not only reduce expenses of handling, but prevent purchasing new materials when such may be in stock. Surplus stocks may be transferred from one field warehouse to another or from lease to lease easily and an accurate inventory may be kept, insuring that all properties are charged with materials sent to them and credited with materials received from them. Loading of trucks and wagons may be expedited, trucks may be routed for the shortest, best hauls. Much equipment and material may be salvaged and made serviceable and a good warehouseman is well worthy of his hire.

Some warehouse plants, like Topsy, just grow, and eventually are expensive in administration and labor and make inventories difficult or impossible. When a discovery well comes in and trainloads of material begin to arrive, it may become confusing to handle great quantities systematically from the railroad yards and losses may occur.

The plant layout given herein provides for unloading materials from within the warehouse inclosure, whether bound directly for the field or for storage and all operations kept under the supervision of the proper persons. The time to plan a warehouse plant may be too limited to make a proper layout and it is therefore well to make up several layouts for various sizes and conditions and to use the unit system that the plant may be commenced immediately and enlarged from time to time as may become necessary, so that should the field become very large plant expansion may be had without moving things about to secure convenience.

Location of Warehouses

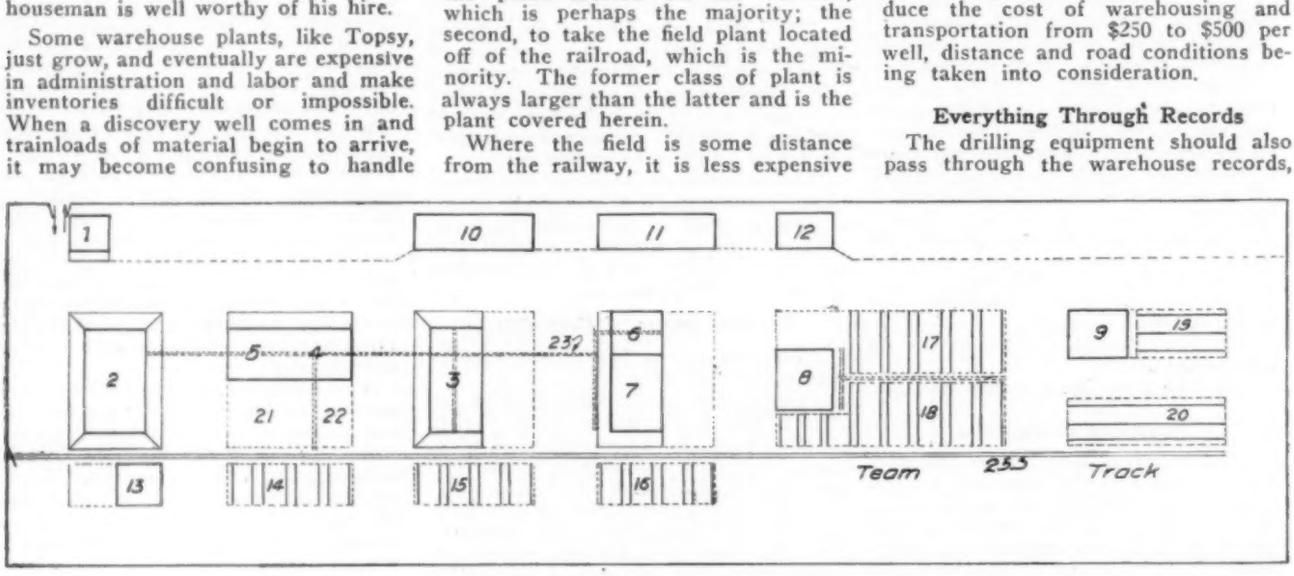
The first division into warehouse plant classification would be to take the plant located on the railroad, which is perhaps the majority; the second, to take the field plant located off of the railroad, which is the minority. The former class of plant is always larger than the latter and is the plant covered herein.

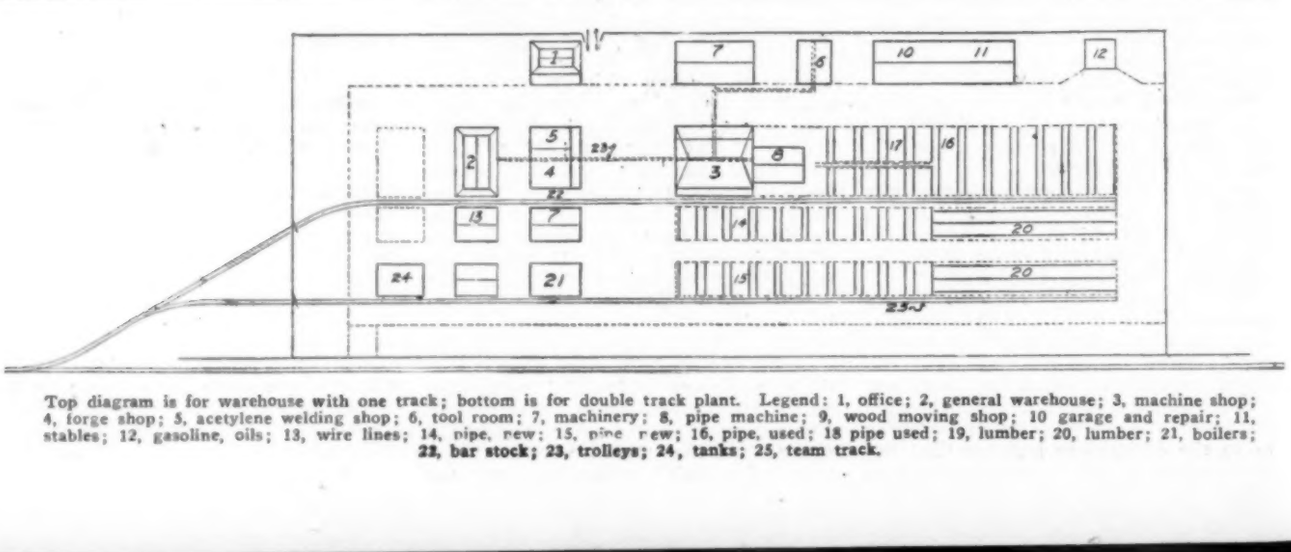
Where the field is some distance from the railway, it is less expensive to unload equipment and materials from the cars and ship directly by truck to destination, of course. But, where large stocks are to be carried, it is less expensive to store machinery, materials, equipment and pipe and the like at the railroad rather than haul them to a field warehouse for storage then hauling again to location. One loading and one haul may be eliminated thus, which in the case of large operations, or even moderate operations, more than offsets the cost of maintaining.

An average well, 3000 feet deep, will require from 250,000 to 300,000 pounds of equipment and material, excluding drilling rigs. Derricks, standard rigs, rig irons, cement, sand, rock, engines, casing rods, tubing and every other item included in the making of a well must pass through the warehouse records for cost and inventory purposes, as well as be transported. A careful study of operating conditions, and the laying out of warehouse facilities adequate and proper has been found to reduce the cost of warehousing and transportation from $250 to $500 per well, distance and road conditions being taken into consideration.

Everything Through Records

The drilling equipment should also pass through the warehouse records,





Top diagram is for warehouse with one track; bottom is for double track plant. Legend: 1, office; 2, general warehouse; 3, machine shop; 4, forge shop; 5, acetylene welding shop; 6, tool room; 7, machinery; 8, pipe machine; 9, wood moving shop; 10 garage and repair; 11, stables; 12, gasoline, oils; 13, wire lines; 14, pipe, new; 15, pipe new; 16, pipe, used; 18 pipe used; 19, lumber; 20, lumber; 21, boilers; 22, bar stock; 23, trolleys; 24, tanks; 25, team track.

though this is usually taken directly from cars to location, but repair parts, renewals, supplies of every description, including packing, fittings, valves, cups, oils, that are usually issued in small quantity for a particular job, must, of course, be carried in close proximity to the work, since the weight of such material is so small that transportation is a minor factor compared to time loss of renewal.

The warehouse plant site should consist of sufficient acreage to permit expansion; the proper storage of materials in the open is not facilitated by crowding piles of pipe, lumber and such, because crowding usually causes re-handling and consequent expense. Rehandling can be done only with teams, trucks and labor and it can be readily seen that re-handling is not productive.

Next, the site should be selected with natural drainage if possible, otherwise, care must be taken to insure that all materials and floors are kept up out of water.

Then roads should be graded up within the plant so that teams and trucks can reach all parts in any kind of weather without road trouble. The width of road should be such that two trucks can pass. Two trucks, in this layout, seldom pass in opposite direction, but a loaded truck in the rear must pass a truck being loaded. The width can therefore be 30 to 60 feet and the grading carried to the edge of platforms, pipe racks and loading doors for convenience in reaching the proper loading point.

Location on Tracks

It will be noted in the accompanying sketch No. 2 that the plant trackage parallels the main line of the railroad and that the main line is separate from the plant inclosure, with no driveways crossing the main line. Should the property available be so located that this layout is not possible trackage may be extended at right angle to the main line, instead of parallel as shown, making a different layout, however. There are many trackage layouts and plant layouts, too, that may be adapted, but the fundamentals must be had if the plant is to accompjlish the desired end.

This layout shows that all inbound trucks and teams pass the warehouse office to receive loading slips and directions for loading, then go to the proper rack or platform for loading, when, without turning around by backing up, the truck, outbound, passes the warehouse office again to receive routing and delivery tickets.

At this juncture much truck and team time can be saved by having a competent routing clerk or truck dispatcher to send trucks along certain routes that are best, to prevent back and cross hauls and prevent duplicate trucks delivering part loads to the same lease. Routine shipments may be so handled, though rush shipments must have the right of way.

Keeping Ahead With Hauling

But a good warehouseman looks carefully into the needs of the field for some time ahead. In a proven field it is certain that inside wells and a majority of outside wells at the time, will require casing, lumber and other heavy materials and to list these and send them out when most convenient, ahead of time, means fewer field delays, and that fewer trucks may be employed, resulting in less idle truck time. For proper handling, then, the warehouseman should be furnished with data covering well progress and new locations for his guidance along these lines.

In addition to handling rail shipments, bound to the field by truck, much material is returned to warehouse stock, or to the shops for repair. Thus, the truck will pass by the warehouse office and check his load in and be directed to the proper place for repair or storage. It is impossible to handle a warehouse stock accurately unless every load, in or outbound, passes a certain point to be checked; the average truck chauffeur wishes to be on his way (or at least, we may hope so) and, unless some means is taken to get him out quickly, if he can go out of another exit, such load goes out without record. Inbound shipments are subject to the same conditions. The average field man dislikes books anyway and papers, and this part should be so arranged as to make records easily and quickly gotten.

It is needless to say that a secure, high fence is a requirement around warehouse plant to prevent fire, theft and other losses. The heavy woven wire fence is best suitable since it may be erected quickly and when not needed may be used in another place.

Grading

Roadways may be graded at least twelve inches above the average ground level with profit. Part of this cost is offset by a reduction in height of loading platforms. If the expense of gravel or stone is not justified or is not allowed, then a mixed sand and clay surface will carry water off and repairs are not difficult. Roadways necessarily are made before racks and platforms are erected, but borrow pits are not left undeneath anything to be erected. It will be noted that roadways, once built, are not covered by future racks or platforms, but are still used, should the plant be extended.

The layout shown in Figure 1 is a single track plant, which is extended by projecting trackage. Sufficient space remains for enlarging buildings. Another parallel track can not be added to this layout and preserve the ideas of the plant. But, sketch No. 2 shows a double track plant. This plant was first started with a single track and it can be seen that the layout, with a single track, served the immediate needs of unloading boilers, machinery, pipe, lumber, either to storage or to trucks, and that extensions consisting of shops, warehouse, pipe machines, garage and other additions were placed with reference to a second track. Additional trackage for this plant may also be easily had.

This plant had a small beginning, but was enlarged to the size shown without tearing down anything or covering up any roadways. It is difficult to estimate the probable requirements of any field or of any company. Then, a warehouse plant that is laid out so that it must be moved about to allow extension, does not serve the purpose for which it is erected; the field may move much, fast or slow, necessarily so, and requirements rise and fall, but the warehouse should always be ready for service.

Unit construction has been adopted in many lines of industry and is highly successful, whether for expansion or contraction.

Two Tracks Best

In sketch No. 2 two tracks have an advantage over the single track of No. 1 for a large plant. When switching is to be done a long track may cause considerable lost time, waiting for cars to be placed again, but, when two tracks are used and one switched at a time, lost time is reduced.

The layouts shown are typical for a field adjacent to the warehouse plant, that is, within four or five miles. This layout does not suit all conditions and is not intended as a general layout for all conditions, but simply to convey the general warehouse planning idea; at least seven standard layouts would be required, from which one may be selected that will suit the condition of various fields as found. These layouts differ in size, in layout of trackage, in equipment, for cable tool fields, for rotary tool fields and for combination fields. And, where material is received by water, another set of standard layout sketches is necessary.

Routing Materials

The first consideration in this layout is routing of materials; no materials are handled more than once to unload and place in stock; no materials are rehandled for loading out directly from cars; no materials in stock are moved backward anywhere; material may be unloaded directly from cars to trucks for transportation to the field; part of a car may go to storage and part to the field without rehandling; materials for repair may be unloaded at the proper rack or shop platform, taken in the shop and placed in condition, then easily placed back into storage or loaded out again and every load passes the checking point for record.

It must be understood that every field has first its drilling program, requiring large stores and fast handling, then the equipment stage, when all wells are equipped permanently, when the drilling equipment may be taken back to warehouse, placed in order, and probably shipped to another field for further use. The drilling period may last from a few months to a year or more and lapse over into the equipment period. After the equipment period comes the maintenance period, when the plant must be settled down to years of steady, routine work.

Saving in Costs

When we consider that a field like Tonkawa, drilled with rotary and finished with cable tools, required something like four hundred thousand tons of material and equipment of all kinds, and that something like one hundred to one hundred and fifty thousand truck loads were required to transport ma-

terials from cars or warehouse to the field, a difference of five cents per hundred pounds amounts to a total of three hundred thousand to four hundred thousand dollars; and that a field like Santa Fe Springs required about the same amount of transportation, the subject of this paper becomes well worthy of consideration. Of course this expense comes out of every operator, and is divided into many small and some large amounts, but, as a whole, it comes out of the oil industry and becomes a part of costs of production.

It is difficult nowadays and is rarely possible to make a great big difference in costs at one fell swoop; it has been done in the past, but the many brilliant minds now devoted to the production of oil have delved into every phase and it is only by taking off a dime here, a quarter there, and a dollar elsewhere, that the sum becomes worthy of effort.

The oil business has grown to such large proportions that $10 per well is a matter of consequence.

Returning to our sketch No. 2 the railway tracks are seen to be on the delivery side of the main line, so that there is no delay in transportation caused by trains switching or passing on the main line and that grade crossing danger is eliminated at the warehouse. The spur tracks are arranged partly with team tracks on one side with storage on the other and other trackage wholly for unloading into storage; team trackage being used only for materials arriving, immediately bound for the field.

The warehouse sheds, for equipment and materials requiring roof protection, are seen to be located on trackage, and team trackage is also provided for loading this class of equipment on to trucks directly from cars.

Each track should have a derailing device, carefully handled, to prevent accident when switching must be done at the time material is being loaded or unloaded.

Tool Storage

Tool storage, such as fishing tools, drill collars, jars, bits, weighing more than one man size, are handled into and out of tool house. The truck or tool pushers car drives into the tool house and loads from a platform on either side. Since these tools may weigh more than one man may handle, a trolley chain hoist is arranged to travel lengthwise the platforms for lifting tools on to the truck. These tools may also be loaded under the trolley outside.

Lumber is handled to truck or storage from either side of lumber trackage. Where a variety of lumber arrives in the same car, the car may be moved with hand car movers to the proper rack, then to another, rather than haul by truck to place. Where rig timbers and derricks are purchased in patterns, each pattern may be loaded directly from cars to trucks or to storage or to both from the same car. Sufficient space is allotted to each pattern to prevent piling more than one pattern in a place and mixing. Some lumber requires roof proection and the racks may have certain ones assigned for this class of material.

Wire line storage is provided on one side of track, consisting of platform with roof and no sides, with roadways, so that a car of wire rope may be unloaded by rolling the reels on to the platform or across to truck. This platform has a suitable reef and measuring device for conveniently measuring and cutting off required lengths of wire rope for various purposes.

Handling Heavy Items

Facilities for unloading heavy timbers and pipe from gondola cars up,

Men who are doing the heavy work on the exposition.

over the sides, and down to rack or truck without rough handling will prevent accidents and secure freedom from dents in casing. These are usually operated by team or by using a truck as a tractor, although special means may be placed for handling the work better.

For handling heavy machinery, such as drilling boilers, engines, gasoline plant compressors, vacuum pumps, rotaries of the larger type, and other equipment off of the cars, to the field or to storage, there could be provided better equipment than ordinarily used; in fact, little equipment is used in handling these heavy pieces, which is a compliment to the trucking and teaming abilty of some field men.

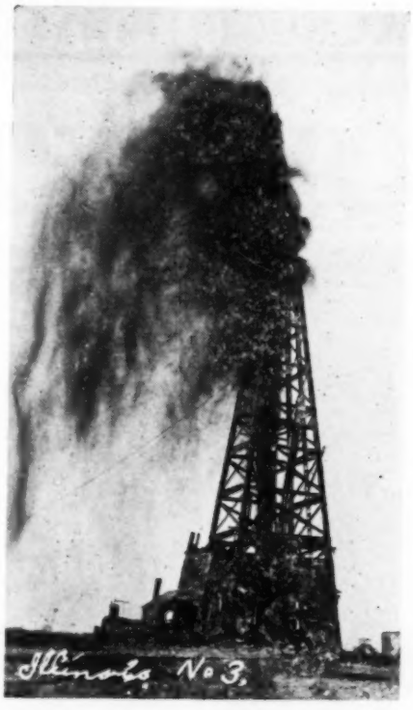
Platforms for storing heavy machinery should be heavily built with ample foundation and of the correct height for unloading from cars and for loading on to trucks. By making the roadway of proper height above team tracks to bring the truck body level to the level of platform required for unloading cars, considerable expense may be avoided.

Although the plant shown may seem elaborate, still, should a field require a small warehouse plant this layout was first built small, as before. The warehousing of materials, or handling as required, is not a manufacturing proposition, or is not even handled like a manufacturing plant storage adjunct, and can not be placed upon a production basis. But many well known and carefully worked out production ideas and devices can be used with great profit in warehouse administration and material handling and repair. By production basis I mean that the work of warehouse and shops is not steady; it may be this work today, that tomorrow, and every kind the next day, whereas, production basis would be such that the same man, machine and tool would do the same thing every day, which is not possible in this class of repair and maintenance and supply work.

The machine shops, forge shops, welding shops and the general warehouse are within themselves a study. The machine and forge shops are reserved for a future article when the subject will be handled at length and detailed as to requirements and equipment.

Repairs

The quantity of materials and equipment placed through warehouse records reaches such great proportions, in large fields, that much expense can be eliminated, not only in warehousing, but in keeping equipment in repair ready for use, to prevent purchasing new material. To purchase new material, when such may have been in stock by repairing material transferred to the warehouse, is not good management, of course. A gas engine needing reboring and new piston and rings, when repaired and rated at 100 per cent, will give as good service as a new engine. Cylinders are made thick enough for several reborings or regrindings, anyway. Rethreaded pipe does equally as well as new pipe for water and gas lines. A fishing tool with a slip missing, makes just as good a tool as new, with the slip replaced,



The Illinois Producers Company's third test on permit land in the Eddy County section of the Pecos River Valley region of New Mexico. The well made a six-minute flow this week after a shot of 130 quarts at 1993 feet. See story on page 67.

and when the proper facilities are provided, to conveniently handle such equipment and material, the net result runs up into an enormous sum.

The pipe machines in Drawing No. 2 are located at one end of the machine shop to secure power from the same source, and a doorway to outside pipe racks is opposite each machine, or the entire end may be of sliding doors. Pipe racks are placed with the pipe longitudinally, to facilitate rolling, and, the machines being longitudinally placed also, pipe on the rack may be placed in the machine with a trolley and a chain hoist and the hoist used for steadying the pipe while threads are being cut. One side of the rack is for pipe received from the field by truck; the other side for pipe received from cars. Pipe from either side may be repaired and loaded out either way, truck or railroad cars, without rehandling unnecessarily.

Trolleys

The chain hoist and trolley used are the same as are used on cable tool rigs for handling bits; the track is a standard structural steel section and is easily obtainable. Pipe from any rack is handled by the trolley to pipe machine, then back to storage. The trolley supports must be strong enough to carry the heaviest joint of pipe handled, and securely braced.

A trolley runs also from the machine shop to the forge and welding shop and through the latter to the main warehouse. This trolley handles forged material from forge shop to machine shop, or materials to and from the acetylene welding shop. It extends also to the machinery shed platform for storing equipment after repair.

The shop floors are necessarily at ground level, while warehouse tool storage and machinery platforms are at car floor height. A platform is shown surrounding the general warehouse; a side platform for the forging and welding shops; a platform for the machine shop. These are to receive materials to be worked upon and to load out from when finished. Where the trolley passes in the platform is omitted, making an entrance also, at ground level on the platform side. When materials and equipment are repaired and go back to storage, instead of to the field, the trolley reaches the proper places, so that such equipment can be placed in its proper storage.

Bar stock, for steam hammer work, may be unloaded from cars to bar stock rack between cars and forge shop, then handled into the forge shop by trolley. Finished forgings go to proper place by trolley, also. Bits for sharpening, stems for welding and various other heavy parts, going first to the forge or welding shops, are unloaded on to the platform outside of the hammers, going to heating furnaces by trolley, and back to platform for loading out or for storage.

When lumber is brought back to the warehouse from the field it may be unloaded on the proper rack and, when nails are to be pulled and the lumber made ready for another use, ample space allows rolling it over to draw nails and leave it in place.

Handling Junk

Equipment destined for the junk pile, old pipe couplings, protectors, and various other useless material is stacked alongside the track for easy loading when a car has accumulated. This material is gathered from the field, or may be discarded in the forge or machine shop; in any event, if it should be discarded by the field superintendent as unservicable, it should be inspected first by the shop superintendent then by the warehouse superintendent, to make sure that it can not be made of further profitable service in the same place as before, or whether it can be of use in another place.

Some companies use the percentage system of estimating the serviceability of used equipment; new equipment would be classified 100 per cent, of course; equipment originally for heavy continuous work when new, but light work when old, may be classifiied at 75 per cent; old drill pipe when rethreaded, may class 100 per cent for use in water and gas lines, but at nothing for further use as drill pipe.

The separation of various materials and equipment into new and used racks, and into used serviceable and used unserviceable, but capable of repair, is a guide to the warehouseman in keeping his stocks balanced. He can tell at a glance, either from his books, or his racks, just how his stocks are balanced and either requisition materials for replenishment or he may recommend certain materials for transfer to other warehouses when required.

The supply of gasoline, oils and greases is kept in an iron clad structure away from danger of fire. Gasoline and oil dispensing pumps are set

(Continued on page 34.)

CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Current Postings

EASTERN STATES

	July 19 1924	July 19 1923
New York Transit	$3.25	$3.00
Bradford (Pa.)	3.25	3.00
Other Pa. Grades	3.00	2.75
Cabel	1.60	1.50
Ragland	1.00	.75
Corning	1.90	1.60
Somerset, medium	1.70	1.40
Somerset, light	1.85	1.55

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Daviess, Barren, Cumberland and Monroe Counties.

33 gravity or below	1.55	...
33 to 35.9	1.65	...
Above 35.9	1.75	...

CENTRAL STATES

Illinois	1.97	$1.87
Indiana	1.98	1.88
North Lima	2.18	2.08
South Lima	2.18	2.08
Plymouth	1.35	1.25
Lodi	1 80	...
Princeton	1.97	1.87
Waterloo	1.45	1.35
Wooster	2.00	2.15

MID-CONTINENT

(Prairie Prices)

Below 30 grav.	**$1.25**	**$ ...**
30 to 32.9 grav.	**1.45**	**...**
33 to 35.9 grav.	**1.75**	**...**
36 to 38.9 grav.	**2.00**	**...**
39 gravity and above	**2.25**	**...**

(Sinclair Prices)

Below 30 gravity	$1.25	
30-32.9	1.45	
33 gravity and above	1.75	

(Texas Company Prices)

Below 30 gravity	1.25	
30 to 32.9	1.45	
33 to 35.9	1.75	
36 and above	2.00	

	July 19 1924	July 19 1923

(Magnolia Petroleum Co.)

Below 28 gravity	.90	...
28 to 30.9 grav.	**1.00**	**...**
31 to 32.9 grav.	**1.10**	**...**
33 to 35.9 grav.	**1.35**	**...**
36 and above	**1.50**	**...**
Corsicana, light	**$1.50**	**$ ...**
Corsicana, heavy (at wells)	**.90**	**...**
Mexia	**1.50**	**...**

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	1.75	1.00
Corsicana, heavy	1.00	.65
Thrall	1.00	1.50
Mexia	1.75	1.00
Currie	2.00	1.00

SOUTH TEXAS

Mirando (Texpata)	.80	.75
Mirando (Magnolia)	.75	...

SOMERSET

Below 33 gravity	**$1.15**	**$ ...**
33 to 35.9 gravity	**1.40**	**...**
36 to 38.9 gravity	**1.60**	**...**
39 gravity and above	**1.75**	**...**

GULF COAST

Grade "A"	1.75	...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.45	...

LULING

All gravities	1.00	...

LOUISIANA-ARKANSAS

Caddo

38 gravity and above	1.60	$ ...
38 to 37.9 gravity	1.50	...
32 to 34.9 gravity	1.40	...
Below 32 gravity	1.25	...

Homer

35 gravity and above	1.60	...
33 to 34.9 gravity	1.50	...
31 to 32.9 gravity	1.40	...
Below 31 gravity	1.25	...

COTTON VALLEY

All grades	.90	...

Haynesville

33 gravity and above	1.50	...
Below 33 gravity	1.40	...

Bull Bayou

38 gravity and above	1.55	1.60
35 gravity to 37.9	1.40	1.50
32 to 34.9 gravity	1.25	1.45
De Soto crude	1.60	1.80
Crichton	1.40	1.45
Bellevue	1.50	.85
Jennings	1.75	1.75
Vinton	1.75	1.75
Edgerly crude	1.35	1.75

Smackover

	Texas Co.	Standard of La.
26 gravity and above	$1.05	$1.05
25 to 25.9 gravity	.90	.90
24 to 24.9 gravity	.80	.80
Below 24.0 gravity	.70	.70

El Dorado

33 gravity and above	1.60	...
Below 33 gravity	1.50	...
East Field (Calion)	.75	...

Stephens District

(Posted by Atlantic Oil Producing Company)

28 gravity and above 60 degrees	1.15	...
26 to 27.9 gravity at 60 degrees	1.10	...
23 to 25.9 gravity at 60 degrees	.95	...
Below 23 gravity at 60 degrees	.75	...

WYOMING–MONTANA

Wyoming

Elk Basin	1.95	1.70
Grass Creek	1.95	1.70
Rock Creek	1.70	1.35
Lance Creek	1.90	1.70
Mule Creek	1.10	.95
Big Muddy	1.50	1.25
Salt Creek	1.60	1.35
Osage	1.90	1.80
Hamilton Dome	**1.55**	**1.35**
Pilot Butte	**1.25**	**1.10**
Landers	**.70**	**1.00**
Torchlight-Greybull	**1.90**	**1.80**

Montana

Sunburst	1.05	.80
Cat Creek	**1.95**	**1.85**

CALIFORNIA

(Crude oil prices at well.)

Los Angeles and Orange Counties

14 to 19.9 gravity	**$1.00**	**$ .60**
20 to 20.9 gravity	**1.01**	**.61**
21 to 21.9 gravity	**1.02**	**.62**
22 to 22.9 gravity	**1.03**	**.65**
23 to 23.9 gravity	**1.05**	**.68**
24 to 24.9 gravity	**1.07**	**.71**
25 to 25.9 gravity	**1.10**	**.74**
26 to 26.9 gravity	**1.13**	**.77**
27 to 27.9 gravity	**1.16**	**.80**
28 to 28.9 gravity	**1.19**	**.83**
29 to 29.9 gravity	**1.22**	**.86**
30 to 30.9 gravity	**1.25**	**.89**
31 to 31.9 gravity	**1.28**	**.92**
32 to 32.9 gravity	**1.31**	**.95**
33 to 33.9 gravity	**1.34**	**.98**
34 to 34.9 gravity	**1.37**	**1.01**
35 gravity and above	**1.40**	**1.04**
Fuel Oil	**1.40**	**...**

CANADIAN CRUDE

*Petrolia	2.58	2.58
*Oil Springs	2.65	2.65

*Plus 2½ cents bounty.

MEXICAN CRUDE

Tuxpam (f.o.b. buyers tanker and tax	**1.59**	**...**
Panuco (f.o.b. buyers tanker and tax	**1.21**	**...**

Cancellation of Permits Restrained by Courts

Santa Fe, New Mexico, July 18.—A temporary injunction preventing the United States government from serving notice of cancellation of oil and gas permits on some 250 applicants in New Mexico, was granted by Federal Judge O. L. Phillips, last week.

Request for the injunction was made by 25 applicants for permits of additions to the Navajo Indian Reservation.

The case involves more than 750 persons who have made application for oil and gas prospecting permits in New Mexico, Arizona, and Utah, and this injunction prevents the government from turning over 5,500,000 acres of grazing and oil land to the Navajos.

Complaints allege that applicants for the permits have paid fees to the government, have supplied survey bonds for performance of requirements of the lease act, and have surveyed their entries. Others have drilling outfits on the leases, ready for development work, all in pursuance of authority and the requirement of the secretary in directing the land officials to receive entries.

Arthur M. Edwards, former assistant attorney-general of New Mexico filed the complaint which was verified by Frank Stapling, publisher of the New Mexico State Record, and one of the applicants.

It is believed that the case will go to the Supreme Court of the United States.

Various executive orders provided that the land be withdrawn for the use of the naval reserves, although it was never considered as belonging to them. When the oil and gas lease act was passed, the secretary of the interior held these lands were property of the government, and directed local land officials to receive applications under the lease act for the same. About 250 entries were made.

About three years later, in February, 1924, orders were issued by the secretary of the interior to the commissioner of the general land office to grant permits. Two months later he reversed his decision commanding cancellation of all entries except the few on which permits had actually been issued.

Applicants for permits complain that the Navajos have no use for their 3,500,000 acres of land, and that it would be impossible for them to obtain money for irrigation projects essential for development of the area, and that to give the land to the Indians would permanently prevent settlement and development of an area totaling more than half the size of the New England states.

SINCLAIR OILS

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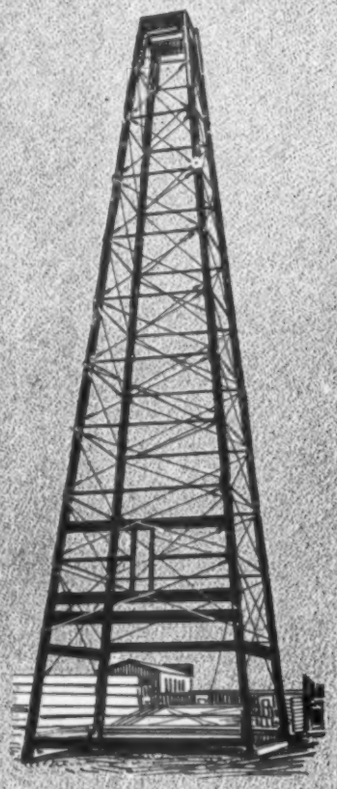

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Los Angeles Oil Shipments Show Another Big Decrease

Los Angeles, Calif., July 12.—Movement of petroleum and its products from Los Angeles Harbor last week showed a big decrease in shipments of crude, although gasoline, fuel oil and kerosene moved in larger quantities than previous week.

Twenty-one tankers departed last week from the harbor, compared with same number previous week. Four tankers carried crude to Atlantic domestic port—all to Bayonne for the Standard of New Jersey. One cargo of kerosene was sent to Dairen, while two tankers of gasoline went to Thameshaven and one to London.

Record in barrels for past two weeks follows:

	Last Week	Prev. Week
Tankers departed	21	21
Total crude moved	697,558	1,118,925
Total fuel moved	328,962	268,893
Total gasoline	211,978	161,451
Total kerosene	80,000	2,431
Crude, Pacific domestic	364,829	256,772
Fuel, Pacific domestic	145,962	16,000
Gasoline, Pacific domestic	.....	96,451
Crude, Atlantic domestic	268,727	550,406
Gasoline, Atlantic domestic	.....	.....
Crude, foreign	64,000	311,747
Fuel, foreign	183,000	252,893
Gasoline, foreign	211,978	.....
Kerosene, foreign	80,000	.....

Dutch Shell Increases Production in 1923

Amsterdam, Holland, July 12—Enormous progress in the production of crude oil by the Royal Dutch Petroleum Company is recorded for 1923. The aggregate output for the year as stated in the annual report just issued, shows 14,688,031 metric tons as compared with 8,999,035 tons in 1922, an increase of 5,689,000 tons. While world production was increased by 19 per cent, that of the Royal Dutch advanced by 60 per cent. To this record output, the following territories contributed:

	1923 Tons	1923 Tons
Dutch Indies	2,764,000	2,323,000
Sarawak	567,000	409,847
Egypt	152,000	172,022
Rumania	414,000	407,442
Mexico	4,632,000	2,643,606
Venezuela	558,000	350,362
U. S. Mid-Continent	1,918,000	913,242
California	3,697,000	1,778,732

Heath M. Robinson, geologist, announces the opening of an office at 304 American Exchange National Bank Biulding, Dallas, Texas. Formerly Mr. Robinson was with the United States Geological Survey and during this connection, published a number of bulletins dealing with oil and gas areas in the Mid-Continent field. Later he joined F. Julius Fohs' staff and since the opening of the Mexia oil field, he has been actively engaged in field studies in Texas and southern Oklahoma. Recently he resigned from the Humphreys-Fohs organizations to go into business for himself.

Dorset Carter of Oklahoma City, president and general manager of the Coline Oil Company, has resigned that position and plans to operate independently in the Panhandle country of Texas.

Mexico Becomes Importer of Crude Oil

California shipments serve Tampico refineries when Mexican output registers decline

*By Valentin R. Garfias and Howard F. Nash**

Although the output of the Mexican fields declined materially during 1923, the country still ranks as the second oil producer in the world. From 1919 to 1922, inclusive, the production averaged close to 20 per cent of the world's total; and together with that of the United States represented very close to 87 per cent. During 1923, the production of the United States increased at about double the rate of the previous year's increase; in fact, the average yearly increase from 1919 to 1922, inclusive, had been 12 per cent over the previous year's production, while the increase of 1923 over the production of 1922 was about 31 per cent. The Mexican production, on the other hand, decreased during the last year to less than that of any of the last four years, and its present rate of production about equals that at the close of 1919.

The year of 1923 further marks a decline of the light-oil production and the increase in the production of heavy oil, the figures for both of these grades were about equal by the middle of May, after which the amount of Panuco crude production exceeded that of the lighter grades. The total production of 1923 was close to 152,000,000 barrels, as against 184,000,000 barrels for 1922, or a decline of over 17 per cent.

A total of 423 wells were drilled during the year; 383 of these were in proved territory and the balance were prospects in wildcat areas. Of the wells drilled in the producing fields about 61 per cent were dry holes; the number of producing wells drilled was greater in the light-oil districts, in proportion to the wells drilled, than in the Panuco district. Of the 298 wells drilled in Panuco and adjoining fields, 64 per cent were dry holes, while the proportion of producing to non-producing wells in southern fields was more nearly 50 per cent. In the Tehuantepec districts only one out of nine wells drilled was productive, but hardly in commercial quantities.

*Recently presented before the American Institute of Mining and Metallurgical Engineers.

Extension Recorded

It is interesting to note that the daily flush production of wells in the southern fields was close to 8000 barrels each, against about 3500 barrels for wells brought in at Panuco and adjoining areas.

Successful development in the Panuco district, including Panuco, Cacalilao, Topila and Ebano, was concentrated in three or four small areas in Cacalilao; but even with the bringing in of a number of big producers, the flooding of large areas greatly reduced the increase in new production and the average monthly increase of heavy crude was materially less toward the end of the year than at the beginning.

Drilling activities in the southern fields resulted in the location of high spots along the flooded "Knife-Edge" and at Tierra Blanca several producers were complete, which, however, did not materially affect the overall production of these areas throughout the year.

The most important development of the southern fields was the completion of a well at Alamo during December, which proved the continuation of the "Knife-Edge" for 2 miles farther to the east than the point formerly considered its southernmost extension; it appears that there is a low saddle between this new well and the old flooded Alamo pool.

The nine wells completed in the Tehuantepec district averaged close to 3000 feet in depth and only one of these encountered a production of about 100 barrels.

Of the wildcats drilled during the year, the Cabo Rojo well reached 3300 feet and the San Javier 4000 feet. The Aguada well reached 5225 feet (the greatest depth drilled in Mexico); this is the first well west of the main fault that has reached the Tamasopo limestone and has encountered oil at such a depth. The well was estimated at 5000 barrels of oil and water and was not commercially successful.

Development in the Quebrache district southwest of Topila brought in a producer at 3020 feet, which went to water a few months later. Several wells drilled in the Limon Hacienda were also commercially unproductive.

The production in 1923 was close to 152,000,000 barrels, as compared to 184,000,000 barrels in the preceding year, showing a decrease of 32,000,000 barrels, or over 17 per cent. During 1922, 46,000,000 barrels of heavy oil were produced and about 138,000,000 barrels of light oil, while in 1923 these conditions were reversed and for 88,000,000 barrels of heavy crude, 64,000,000 barrels of light crude were produced. It is estimated that the total amount of oil produced in Mexico to the first of the present year aggregates 1,100,000,000 barrels, 312,000,000 barrels, or 28.4 per cent being heavy oil, and 788,000,000 barrels, or 71.6 per cent light crude; this does not include about 3,000,000 barrels produced in the light oil fields of Furbero and Tehuantepec.

Lower Fields Decline

During 1923, there was a big decline in production of the "Knife-Edge" pools, with the exception of lower Cerro Azul, Tierra Blanca and Alamo. The average daily production of these

EXPORTS BY GRADES AND DESTINATION 1923
(In U. S. Barrels)

Grade	United States	Canada	South and Central America	Cuba and West Indies	Europe England Egypt	Africa	Coastwise	Bunkers	Total
Southern Crude							3,527,272		*17,077,234
21 Degrees Be.	11,934,077	1,333,808	282,077		10,720,332	50,438	2,343,101		46,869,571
Topped Crude	25,641,175	563,458	6,423,186	1,127,881	1,672,064		351,568		8,607,173
Distillates	5,945,646	89,215	548,680		876,097		596,953		*63,604,813
Panuco Crude	53,199,118	317,319	1,916,316	6,699,010				6,955,460	
†Bunkers					13,268,493	50,438	6,818,894	6,955,460	143,114,251
Total	96,720,016	2,303,800	9,170,259	7,826,891					

†Division of Bunkers (Estimated)

Topped South crude 14-16 degrees Baume	4,000,619
Panuco crude 12 degrees Baume	2,954,841
Total	6,955,460

It is estimated that from coastwise deliveries 4,000,000 bbls. of oil were re-exported from Puerto Mexico by the Aguila Company as distillates and topped fuel oil.

*Some authorities give the figures of export at 7,604,000 bbls. of light crude, and 72,748,000 bbls. of heavy crude; the correct figures will not be known for some time.

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Cable Address, "Oilfield", New York

Warehouse in Relation to Production Costs

(Continued from page 29.)

before this house and suitable metering records are kept of such deliveries.

The garage for trucks and cars is within the warehouse inclosure and is provided with maintenance equpiment for keeping all rolling stock in order. Stables adjoin the garage and feed is kept in a loft above.

Fire Protection

For fire protection, fire plugs are located at convenient points. Where the stock of materials of an inflammable nature, such as lumber, is large, and where buildings are of wood construction, an elevated tank may be used for storing water received from the field water system. When pressure is carried on field lines, this may be depended upon for fire purposes. A duplicate fire pump consisting of a four-cylinder gasoline motor and turbine pump may be used also. Certain makes of this class of equipment are approved by the Underwriters Laboratories for a separate source of power and water for fire purposes.

A supply of gas for power and heating furnaces should be piped to the machine shops, forge and welding shops and also to the warehouse and office for heating in winter. If gas is not available, fuel oil storage should be provided at the end of the inclosure.

The entire plant—machine shops, forge and welding shops, warehouse, office, storage platforms and racks should be lighted by electricity. When a local power plant does not furnish current, this may be produced by setting a small engine driven generator in the machine shop power room, and there taken care of by the same force.

Telephones

The cost of telephone lines to the field is small, compared with the value of time lost in message bearing. A gasoline plant in the field, a gasoline plant vacuum station, or any other location may be selected for field telephone adjacent to drilling and producing operations so that communication may be had at any time easily. And, in addition to company telephone service, the warehouse plant should be connected to the nearest telephone exchange since movement of freight, local purchases and other outside business must be handled.

Lavatories and sanitary arrangements for all employes tend toward better general working condiions and should be provided. Sanitation means may be obtained by tile piping and a small septic tank, located at the lowest point for ease in construction.

Employes' dwellings may be located outside of the warehouse enclosure, but supplied with water, lights and gas from the same source.

Wilmington, Del., July 14.—Atlantic Refining Company of Philadelphia has been ordered by Federal court here to reimburse the Superior Oil Corporation of Lexington, Kentucky, some $3,500,000 in connection with stock transactions between the two concerns. The court also directed the cancellation of a 10-year oil contract and the restoration of a five year contract between the two companies.

Books for Field Men

Petroleum Production Methods

By John R. Suman. Third Edition, completely revised and brought down to date. Off the press October 15, 1923. Eighty pages of new material added. Among many others the following new features are especially worth noting:

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Chapter Headings: Drilling Methods—All systems fully described. Method of shutting off water—full description of cementing methods and use of Packers. Operation of Properties and handling of production. Treating Emulsions—a very important subject thoroughly discussed. The use of electric power; this newest kind of power for oil field use thoroughly described in all of its various phases. Pipe Line—construction and operation, friction losses, etc. Tanks—construction of, preparation of gauging tables and pervention of evaporation losses. Tables and useful information condensed. Information on various subjects, which oil men are constantly needing for reference. 650 pages, fully illustrated. Cloth.

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The Business of Oil Production

By Roswell H. Johnson, Professor of Oil and Gas Production. L. G. Huntley, Lecturer on Foreign Oil Fields. R. E. Somers, Professor of Oil and Gas Geology. (All of the University of Pittsburgh.) published October, 1922. This book describes the principles of company organization as regards scope, personnel and methods. It was written to meet the urgent, immediate need on the part of many participating in the oil industry, especially the executives of oil companies, for a book on the business of oil and gas production. Table of Contents: The Choice of Regions. Classes of Holdings. The Lease, Form and Provisions. Technique of Leasing. Oil and Gas Rights on Federal and State Lands. Oil and Gas Rights in Other Countries of North and South America. Trade in Leases and Royalties. Modes of Indirect Development. Size and Scope of Oil Companies. Financing of Oil Companies. Organization and Development of the Personnel. The Oil Company Prospectus. The Annual Report. Cost of Producing Oil. Cost of Accounting. Depreciation and Depletion. Taxation. Drilling Methods. Extraction of Gasoline from Gas. The Mexican Situation. Methods for Predicting Future Prices of Petroleum. The Outlook of the Oil Industry. Appendix: Oil Land Act of February 25, 1920. Regulations for the Operation of the Act of February 25, 1920. Digest of Decisions and Opinions on the Act of February 25, 1920. State Acknowledgements. South American Money Values. 264 pages, 6x9, 30 figures, cloth.

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By Lester C. Uren. Associate Professor of Petroleum Engineering, University of California.

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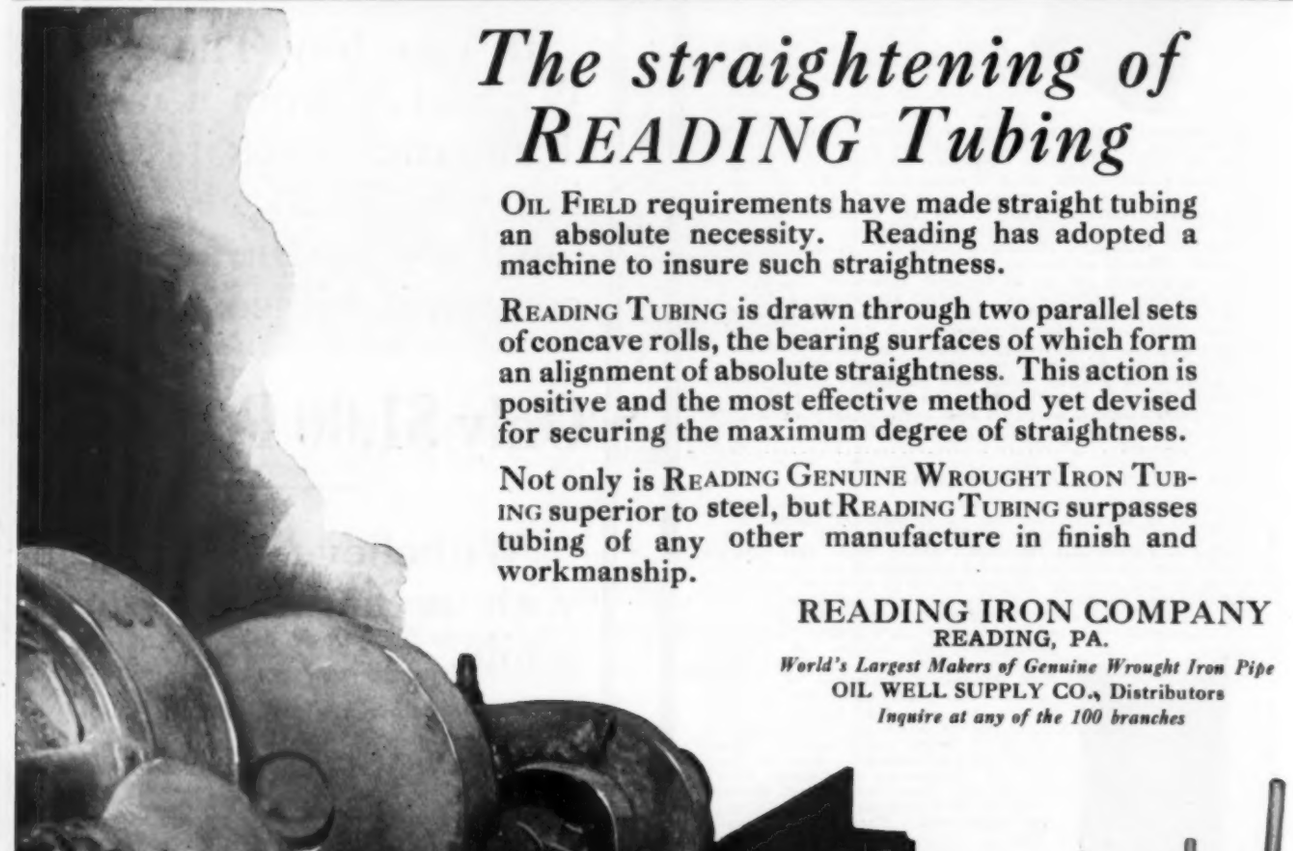

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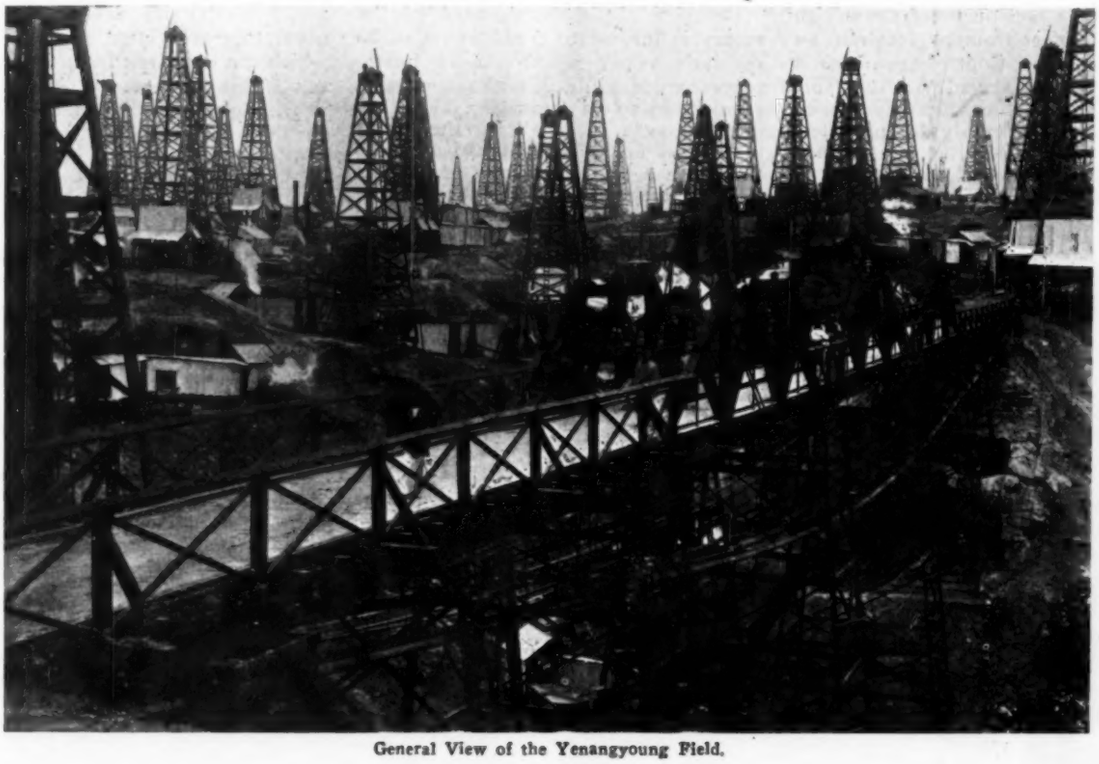

General View of the Yenangyoung Field.

Electrical Equipment Economical in Burma

Conditions of country make motor installations for operating work very desirable

By C. H. McCarthy-Jones,
M. I. Mech. E., M. I. E. E. (Member).

This article, taken from Oil Engineering and Finance of London, gives the methods by which the Burma Oil Company adapted electricity for all power requirements in the Yenangyoung field, Burmah.

The American oil producer has been led to believe, through unique pictures and brief references, that the oil fields of other nations are scenes of crude drilling and pumping machinery. While electrical power is not common to the oil fields of any country, the fact that this one field has been given over to electricity is sufficient evidence that advanced operating methods are not confined to any one nation, or to any one company.

It is significant that American manufacturers had a part in the installation of the electrical equipment of the Burma field.

The Editor.

UNTIL the advent of the electrical motor, the steam engine was employed almost universally for drilling work. In some respects it is admirable for the purpose, robust, simple in design, very sensitive to speed control, and with heavy overload capacity; but it suffers from the drawback that it is extremely inefficient in itself, and leads to further inefficiency in the system of steam generation which it involves.

The main requirements of a motor for operating the percussion system of drilling are as follows:

1. The motor must be extraordinarily robust in design and capable of withstanding the rough usage and the racking strains which drilling entails.
2. It must have a free-fall characteristic on the downward stroke, so as to utilize the stretch of the cable in the manner distinctive of an effective percussion blow.
3. It must be capable of very wide and close speed control, so as to provide the best motion of the tools under the varying conditions of depth and weight which obtain.
4. It must have exceptional overload torque capacity to deal with the high value of the temporary loads which bailing and handling long lengths of casing entail.
5. The inertia of the moving parts must be kept as low as possible.

These features have all been satisfactorily developed in modern motor plant, designed for oil-well work.

In detailing the percussive system the author stated that where exception has been taken to drilling by electricity it can in most cases be traced finally to prejudice. The driller is admittedly a type of man very reluctant to abandon any system with which he is familiar and which has served him well in the past, and, one may add, not always receptive of new ideas, so that there has been a considerable amount of prejudice to fight against in this quarter. In the Burma fields practically no difficulty has been experienced in getting the driller to accommodate himself to this new method of operation.

Rotary Plant

The operation of rotary drilling plant differs considerably from the percussion system, but in essential features the electrical equipment remains the same. Instead, however, of a belt drive the motor is, in the most recent installations, coupled to the draw-works through single reduction gearing. These gears are of very substantial construction and run in an oil bath. The pinion is made of chrome vanadium gear steel, and the gear wheel of cast steel accurately cut, pressed and keyed to the shaft. The whole gear is provided with an oil-tight cover so that it is oil and dirt proof, and the base of the gear extended so that the electric motor is bolted direct to it. The motor and gear thus form one unit, which is in turn bolted securely to the derrick timbers. A flexible coupling is used between the motor and the pinion shaft. The gear is fitted with a chain sprocket, the drive on to the draw-works being effected by a chain in the customary manner. This electrical unit takes the place of the twin-cylinder engine now usually employed, the operation of the rotary being unchanged in other respects.

The control of the motor is effected

from a hand-wheel on the draw-works, or any other convenient location on the derrick floor. Control apparatus is similar to that employed with the cable tool system, and the same wide speed range should preferably be provided, so as to make the outfit suitable for the use of rock bits of the Hughes or Reed type, or for finishing the wells by means of cable tools as is sometimes done. Incidentally it has been found in practice that the continual "plugging" of a motor operating rotary gear is too severe on the ordinary controller reversing contacts. In the latest equipments, therefore, the actual reversing is accomplished by means of contactors, which are mounted separately, but which are automatically controlled by the movement of the controller wheel.

Provided the drilling speed of the rotary is limited to a maximum of 85 revolutions per minute, a 75 horsepower motor will deal with all the usual requirements of a rotary rig. There are disadvantages in increasing the power above this figure, the chief of which is that with a larger motor it is difficult to obtain the speed regulation necessary on the lighter loads, and also there is more liability of twisting the tools off. The horse power absorbed in a rotary depends mainly on how the driller holds the bit off bottom, rather than the formation or size of the hole, but if speeds in excess of 85 r.p.m. are required, then it may be found desirable to increase the horepower of the motor above the figure mentioned.

With an electrically operated rotary equipment the slush pumps are naturally electrically driven also. It is usual to employ two pumps, either of which can be driven from the same motor. This arrangement is effected by providing the motor with a sliding base so that the belt driving the pumps can be shifted at short notice from one to the other. A 50 horsepower slip ring motor is usually provided for this duty, and should be equipped with control and speed regulating gear similar in design to that used for the main drilling motor, except that the same fine speed control is unnecessary.

Speaking generally, it will be found that electrical plant enables better time to be made than with steam drilling. This is mainly due to the fact that the electrical energy is always available, and there are none of the delays which are liable to occur with the portable steam raising outfits. The great superiority exists, however, in the economy effected.

Electrical Pumping

The application of electrical motors for pumping work is apt to be considered a somewhat simpler problem than is the case with drilling. As a matter of fact, however, due to the variety of auxiliary purposes for which a pumping motor is employed, the development of a satisfactory machine for this work has taken longer than the drilling motor itself. It would considerably simplify the problem if the motor were used for pumping purposes alone. This would, of course, entail separate plant of a portable nature for pulling the well, but in the majority of oil fields this practice has not met with very much favor.

Viewed solely from an engineering standpoint a motor designed for pumping duty alone would be more satisfactory, as it would enable the efficiency of the whole system to be considerably improved, and, where alternating current is employed, would permit one to utilize a machine having a very much better power factor than is otherwise the case. The demand of the production departments, however, is for a motor which will accomplish the same results as they have been able to secure with steam plant; that is to say, the motor which is employed for pumping must be also capable of pulling the rods and tubing, and, if necessary, for cleaning and light redrilling work. Owing to the fact that the majority of pumping wells are actuated at a comparatively low speed, whereas when pulling a well it is necessary to operate at high speed in order to reduce the time when the well is off the beam, a motor suitable for this work must have two distinct characteristics. In the first place, it must be capable of supplying the small horse power required for pumping purposes with a reasonable efficiency when operating at a low speed; and in the second place, it must be capable of giving many times its ordinary pumping load output at a very enhanced speed for dealing with the other duties.

The advantages secured by electrical pumping can be summarized as follows:

1. The great economy in fuel effect-

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DRILLING SCENES SHOWING DISADVANTAGES OF TOPOGRAPHY

(Yenangyoung Field)

ed as compared with steam engine plant.

2. The steady unvarying output. Once the motor is put into operation there is no variation in speed, whereas with steam plant, as soon as the boiler pressure drops, so does the speed of of the engine. The increase in output due to the perfectly constant and reliable motion secured with electrical operation has been found to be as high as 26 per cent in certain cases.

3. The lower labor charges. One attendant can look after as many as 15 to 20 pumping equipments, whereas with either steam or gas engine drive a very much larger number of attendants is necessary.

4. The decreased cost of lubricating oil, waste, etc. As the motor lubrication is automatic motors will run for weeks without any change of oil, whereas, with either gas engine or steam drive, the quantity of oil for lubrication, etc., is a serious item.

5. The low maintenance costs. The life of a pumping motor, with ordinary reasonable care and attention, may be anything from 15 to 20 years.

6. Reduction in shut-downs due to engine troubles, rod breakages, choked steam lines, etc.

Record of Energy

Another great advantage which electrical operation offers to any manager of an oil field is the precise information afforded regarding the efficiency with which the individual wells or units are operating. Thus, in the case of the Burmah Oil Company's installation, which is being described later, a recording meter is attached to each well, so that the exact consumption of energy can be measured from day to day and balanced against the production of the well in question. It is hardly necessary to emphasize the importance of this feature, and it will at once be evident that, particularly in the case of small producers, the management are in a position to judge without hesitation those wells which it is best to pump and those wells which it is preferable to abandon.

After detailing the operation of the auxiliary plant and general principles involved, the author dealt in brief with generating costs, as follows:

The capital expenditure involved in providing a power station and distributing system for an oil field, or a group of oil fields, is dependent on many factors and will, of course, vary according to the nature of the field and the number of wells it contains. Furthermore, the cost per unit generated will depend, not on the capital expended alone, but on the fuel obtainable, the method of generation, and on the estimated useful life of the plant. Clearly each proposition will require a different answer, but as a general indication the author has included a curve showing the estimated cost per unit delivered in the case of a moderate sized system employing steam driven turbo-generator units. Speaking generally, this curve would apply to a field of some 500-600 pumping wells, and assumes that all auxiliary plant would be motor driven. Oil fuel is taken as worth 10 shilling a barrel and 7 per cent interest on capital expended is provided for in the costs. The total cost per unit delivered on this assumption is slightly less than 1 pence. If natural gas were available in place of oil fuel, and the gas had no market value, this figure of 1 pence could, of course, be considerably reduced, according to the value which was placed on the gas in question. It must never be overlooked when comparing the respective advantages of electrical driving with other systems that, even if a plentiful gas supply is available, it will ultimately be of the greatest importance to the oil companies to conserve this gas and use it as economically as possible.

Yenangyoung Installation

The Yenangyoung field has, as is generally known, proved one of the most prolific oil bearing territories for its size in the world, and has suffered, in common with other fields from uneconomical methods in the past. The conversion of all wells to electrical drive was first studied in 1910. At that date—in the field, as unhappily still today in a number of the oil fields of the world—the pumping and drilling plant consisted in the main of some hundreds of small relatively inefficient steam, and to some extent gas, engines, the steam engine being supplied with steam from numerous unlagged portable boilers burning crude oil fuel, and alternatively, natural gas. The steam piping, often of considerable length, was generally unlagged also. It needs no figures to demonstrate how wasteful this system was. The important economies and valuable conservation of oil which could be effected by re-

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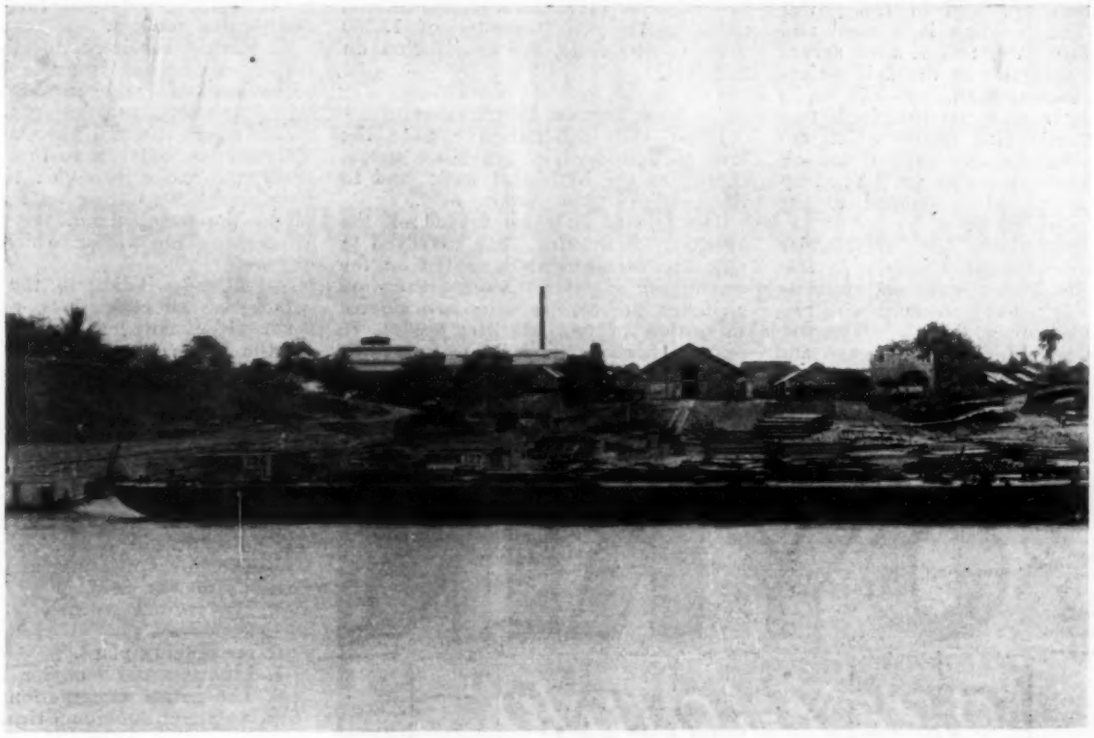

placing these small steam units by central station plant, designed on modern lines, are apparent.

A small trial electrical installation was supplied to the Burmah Oil Company in 1914, and the results, both with drilling and pumping equipments, were so satisfactory, that the directors decided on the bold course of converting the whole of their wells and auxiliary plant in the Yenangyoung field to electrical operation. This important project was held up due to the outbreak of war, but as soon as peace was re-established, matters were put in train and the scheme was successfully inaugurated in August, 1922.

The Yenangyoung oil field is situated on the east bank of the River Irrawaddy, approximately 300 miles from its mouth. The area of the field actively producing is only two and a half miles long by half a mile in width. In this area are, at the present time, approximately 1000 wells belonging to various oil companies, a number of workshops, auxiliary pumping plants and the miscellaneous apparatus attendant on any large industrial scheme.

Owing to certain physical difficulties, a steam turbine plant and a power station was erected about two and a half miles distant from the field in close proximity to the Irrawaddy River.

Engine Room

The engine room and switch gear annex is a steel structure filled in with concrete blocks.

The station is equipped with four 4000 kw., 6150 kva. three-phase, 50 cycle turbo-generator units generating at 3300 volts, and four kva. of oil cooled transformers for stepping up the machine pressure to 13,200 volts. The transformers are placed in separate compartments and are tied to the machine terminals without the intervention of any switch gear, so that each turbo-generator and transformer form virtually one unit. The 13,200 volt terminals of the transformer are coupled to switches mounted in moulded stone cubicles built in an annex of the engine room. The switch gear is arranged in two tiers; on the first floor the cubicles contain the h.t. switching apparatus, current and potential transformers; and on the second floor, the busbar chambers, busbar isolating switches, etc. The board is arranged with duplicate busbars, each set of busbars being carried in its own separate compartment. All the switches are electrically operated from a control board of the usual bench board design, which is situated on the second floor overlooking the engine room.

There are two 13,200 volt outgoing feeders for the supply of energy to the oil field, each of the overhead split conductor type. In addition, there are duplicate outgoing high-tension feeders of the plain type, which supply the local requirements of the Burmah Oil Company, at Nyaunghla, including the main line oil pumps. Provision is also made for additional feeders of the same description should the developments of the scheme in the future require it. All outgoing overhead feeders are protected by oxide film lightning arresters, and are carried through the roof of the annex building by means of special porcelain roof bushings. The conductors are carried from these bushings to a specially designed steel roof structure, and from thence to the various transmission line towers.

The split conductor system of transmission to the fields was adopted as particularly suitable to oil field conditions where continuity of supply is of paramount importance.

The turbo-generators exhaust to low level jet condensers, placed in the basement immediately below the turbines. The condenser cooling water is drawn from a culvert running between the engine house and boiler house. This culvert leads to a large storage and settling tank at the north end of the building. Under normal operation conditions this tank is supplied with water from the river by means of two electrically operated 14 inch centrifugal pumps, having a capacity of 5000 gallons per minute, placed in a pumping station on the river bank, and it will function mainly as a means of settling the fine deposit which is carried in suspension in the river water. Owing to the vagaries of the river, however, it may prove difficult to pump the required amount of water during low water period, and if this contingency arises, provision has been made for utilizing the tank as a spray cooling pond during such time as water is unobtainable from the river in sufficient quantity.

The boiler house is a steel structure covered with corrugated sheets. The present plant consists of six Babcock & Wilcox land type water-tube boilers, each capable of evaporating 30,000 pounds of steam per hour under normal duty, or 37,500 pounds of steam under overload conditions. The boiler pressure is 200 pounds, and the steam is superheated to a total temperature of 650 degrees F. by means of superheaters integral with the boilers.

Transmission Lines

Electrical energy is conveyed to the field by means of two transmission lines, each approximately 12,500 feet in length. The lines are conducted along separate routes, so as to avoid, as far as possible, the contingency of both being interrupted at the same time. In case of emergency either transmission line is capable of carrying the total load.

The two transmission lines are run to a main receiving sub-station centrally situated on the western side of the field. This receiving station acts as a distributing center for the whole of the oil field, and is equipped with electrically operated remote control high tension switch gear of similar de-

sign to that provided in the power station. The building is a steel and concrete structure, and it also serves as the headquarters of the field's electrical engineering staff.

The main receiving station feeds two split conductor ring mains which encircle the more active part of the oil field. These ring mains are tapped by 12 sub-stations, also confined to the outskirts of the field.

The sub-stations are rectangular steel structures approximately 26 feet square, with 9-inch walls of concrete block or brick. They are built with two floors. The upper floor contains the high tension cubicle switch gear and lightning arresters, and the ground floor the low tension switchboard and transformers.

Each sub-station has provision for two 500-kva. three-phase transformers, reducing the line pressure of 13,200 volts to 460 volts, for distribution on the field.

Low Tension Distribution

From each sub-station radiate the low tension feeders providing actual energy to the individual wells, and to the auxiliary plant on the field.

The service lines are tapped off the overhead distributors and conveyed to pole line oil switches mounted on the distribution poles. From the oil switches the service lines are carried to groups of two or three wells. In case of fire on the field it is possible to disconnect any individual service, and make the line entirely dead. These service lines are carried on a similar design of Bates Pole, somewhat lighter than that employed for the main distribution feeders.

The actual service connection to the motor equipments is made by means of an insulated cable carried on porcelain insulators, and brought into the motor house through porcelain bushes. This service is taken to three ironclad fuses and thence through a three-phase unbalanced integrating watt meter, and so to the terminals of the oil switch controlling the motor which operates the well.

As already indicated, the economy which can be effected on an oil field such as Yenangyoung is not limited by the application of electricity to the wells alone. In the present instance electrical drive is also employed on auxiliary plant of a very varied nature. The more important installations of this character are:

1. The main line oil pumping station.
2. Water service to the fields, and for domestic purposes.
3. The oil collecting and pumping stations on the field.
4. The various workshops.
5. Rope-way.
6. Ice making plant.
7. Lighting and fans for bungalows.
8. The actual illumination of the oil field area and individual rigs.

This station pumps the crude oil a distance of 300 miles to the refinery on the coast at Syriam. In this length of line two intermediary pumping stations are introduced. The original layout provided steam operated high economy plunger pumps of Weir make, capable of delivering 12,000 gallons of crude oil per hour at a pressure of 550 pounds per square inch.

Water Services

The problem of an efficient supply of water to the field, and for domestic purposes generally, has always been a difficult one on the Yenangyoung field. Owing to the erratic behavior of the River Irrawaddy, and the great variation in its head, which amounts to as much as 40 feet between minimum and maximum levels, this was accomplished in the past by means of floating barges, which were a source of continual trouble. With the advent of the electrical scheme it was decided to install a permanent pumping station. The station in question has been built of reinforced concrete in the form of a rectangular caisson. The pumps are placed in this building at slightly below mean water level, so that for part of the year they are operating submerged, and for the remainder with a suction lift. High-speed motor driven turbine pumps are provided, running at 1470 r.p.m., and delivering against a head of 440 feet from all causes. The same building also houses the low lift centrifugals which are employed for supplying water to the condensing plant.

In conclusion, the author expressed his indebtedness to the Burmah Oil Company, Ltd., for their courtesy in allowing him to reproduce drawings and photographs of their Yenangyoung installation; also to the International General Electric Company, Westinghouse Company of America, and other makers, for permission to use illustrations of their plant and various data which he has received from them at different times.

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FIELD NOTES AND PRODUCTION STATISTICS

California Production Decline Not Encouraging

No spectacular developments were reported for week; Daily average was off only 4500 barrels

By W. E. Green

Los Angeles, Calif., July 12.—During the past week the daily average production of the Los Angeles Basin field showed a decline of about 4500 barrels, but the state is holding up too well for the good of the industry. The daily production of the state hangs around 625,000 to 630,000 barrels and one large company estimates that the state production at the close of the year will be close to 525,000 barrels a day or slightly better. This estimate is concurred in by several others who are watching the situation closely.

Some of the smaller companies have their storage almost full and other purchasing concerns have plenty of room for more crude, due to overbuilding of storage last year, but they are not anxious for new connections. They would not be hurt if they could take a real vacation and permit their stocks to decrease during the next two months.

Gasoline stocks are too high, and shipments are not what they should be. Consumption of gasoline at this season is close to the peak for the year. But in the face of this large consumption, stocks continue to increase and there is a lot of distress gasoline floating about, finding its way into auto tanks at prices ranging from 14 to 17 cents, which includes a two cent tax. The big companies are holding to the 19 cent price, but a break would not be a surprise.

Long Beach Holding Up

Early in the year it was expected that Long Beach will be in a real slump about the middle of the year, but the field has fooled them. The daily average production in this field is around 160,000 barrels and may be expected to decline very slowly. The production curve for Santa Fe Springs dipped rather sharply the past few months, but is flattening out now, very much like Huntington Beach. The decline at Huntington Beach is around 400 barrels a day per week at this time.

Torrance is also holding up extremely well, having a daily average of close to 60,000 barrels for the past several weeks, with more than a hundred wells drilling in the field at this time. The field has been extended to the southeast and also to the south, although the new wells were rather small ones, indicating them to be edge wells. The Shell Company last week at last placed Keystone 1 on production for 100 barrels of about 14 gravity oil—very low for the field. This well is about half a mile south of production and is considered an edge well.

Busy at Rosecrans

The Rosecrans field is taking the spot light. There are now 33 drilling wells and rigs in the field, with only one producer so far. Last week the Union Oil Company secured the last block of acreage held by the Rosecrans interests, reports having it that a substantial bonus was paid for the 82 acre tract. The tract is west of the Union's Rosecrans block where the first well was drilled and found oil, although this well has not yet been able to shut off the water. This original well is now rigging standard tools to drill deeper seeking a firm seat for the water string.

The Superior Oil Company's Maxwell test southwest of Union's Rosecrans, is also having trouble in getting a seat for its water string. It has penetrated the oil sand and is drilling deeper seeking a shale formation thick enough to hold the cement. In some quarters a well is expected at this test, while others are of the opinion that it is located on the edge of the structure and that the water will never be shut off.

Union Holds 1000 Acres

The new lease of the Union's is a part of the tract on which the Rosecrans Homestead stands on the southeast corner of Vermont and Rosecrans Avenues. The land is directly south of the Union Oil's Trust and General Petroleum's Amestoy leases, and west of the Union's original Rosecrans lease on which two wells are already drilling. A third Rosecrans lease of forty acres, located north of Rosecrans Avenue, is also held by the Union and has one well rigging up to drill.

With the 82 acres acquired the Union has increased its holdings in the Rosecrans district to approximately 1000 acres. It is already drilling 11 wells in the district, three on the two Rosecrans leases, two on the Athens lease and one each on the Chandler, Hursey, Gray, Padleford, Zins and Trust properties.

A human interest element attaches itself to the latest lease in that on it is located the Rosecrans ranch house, which has been the family home for more than 40 years and in which General William Starke Rosecrans died in 1895.

Union Oil wells are working as follows: Rosecrans No. 2, rotating at 2745 feet; No. 3, rigging up; Athens No. 2, rotating at 2270 feet; No. 3, building rig; Chandler No. 1, rotating at 2190 feet; Hursey No. 1, rotating at 2757 feet; Gray No. 1, rotating at 3009 feet; Padleford No. 1, coring at 3711 feet; Zins No. 1, rotating at 3048 feet; Trust No. 1, rotating at 2430 feet.

Gas Blowout

One of the Union's five tests drilling east of the Main Street boulevard from the first test to find oil had a small gas blowout recently, and is drilling ahead. The Julian interests have one drilling well in this field with another rigging up. The last mentioned is on a community lease in the town lot area northwest of the Athens producer. Other wells will be drilling in this northwest area within another few weeks, being the beginning of the townlot drilling campaign predicted in these columns several times in the past six weeks.

The Associated Oil Company's McNally test in the Lamirada district about two miles east of production at Santa Fe Springs is now drilling around 1500 feet after a nice showing of gas at a slightly lesser depth. This wildcat will be watched with much interest as the finding of oil in this area would either extend Santa Fe Springs or open a new field.

There is little hope held out for the Rideout Heights area near Whittier to amount to much. Several wells are drilling and some of them have passed the depth where they thought they would get production.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month of—	New wells started	Water shutoff tests	Deepening Jobs	No. wells aband.
*June	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
September	122	194	39	36
October	114	131	38	25
November	100	151	48	23
*December	105	181	37	32
January	120	111	48	23
February	125	97	49	47
*March	142	183	81	99
April	130	154	76	34
Week ending—				
May 3	30	38	14	4
May 10	31	47	20	8
May 17	26	28	16	8
May 24	49	27	20	9
May 31	20	31	9	5
June 7	34	37	16	5
June 14	34	42	10	7
June 21	23	*33	22	3
June 28	27	37	18	3
July 5	22	27	10	5

*Denotes months with five weeks.

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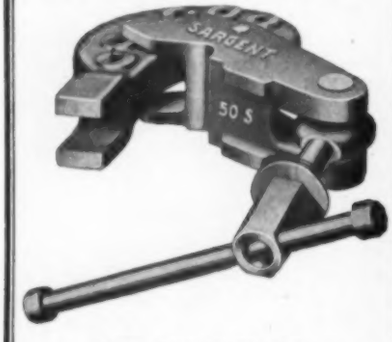

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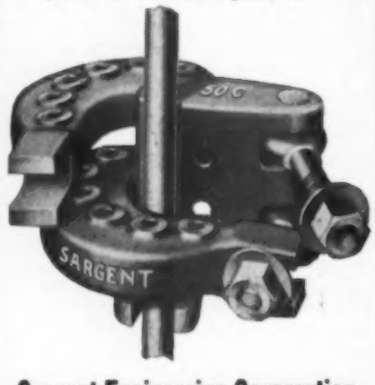

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Average Daily Production for all U. S. Fields

Oklahoma

	Past Week	Prev. Week
Burbank	87,465	89 260
Bristow	57,520	57,490
Osage (outside Burbank)	52,195	49,270
Tonkawa	36,245	35,725
Cushing	26,190	26,500
Okmulgee	25,800	25,390
Stroud	19,540	22,235
Hewitt	20,150	20 400
Cromwell	38,150	33,085
Healdton	14,270	14,390
Duncan and Walters	9,540	9,600
Wewoka	8,295	9,140
Papoose-Gilcrease	7,440	7,405
Other fields	76,980	76,100
Totals	479,780	475,990

Arkansas

Smackover Heavy	94,885	97,875
Smackover Light	37,025	36,500
El Dorado	12,085	12,235
Stephens	2,340	2,260
Irma, Nevada County	1,490	....
Totals	147,825	148,870

Louisiana

Haynesville	18,660	18 820
Caddo Light	11,040	11,480
Caddo Heavy	1,920	1,985
Homer	7,910	7,740
Bellevue	4,845	5,570
Vinton	5,975	5,700
Bull Bayou	4,900	4,900
Cotton Valley	5,910	3,050
Elm Grove	905	1 005
Haynesville	18,660	18,820
Edgerly	625	580
Sarepta	290	100
Anse La Butte	25	20
Totals	63,635	61,575

California

Los Angeles, Calif., July 12.—The daily average production of the California fields for the past week, compared with the previous week, with number of producing wells in several Southern California fields the past week, was about as follows:

	Last Week	No. Prod. Wells	Previous Week
Long Beach	159,000	431	164,000
Santa Fe Springs	63,000	337	62,500
Huntington Beach	45,250	269	44,500
Torrance	59,250	465	60,000
Dominguez	11,500	9	11,500
Rosecrans	675	1	700
Others	276,325	...	276,800
Totals	615,000		619,500

Kansas

	Past Week	Prev. Week
Eldorado	16,500	16,490
Greenwood	19,190	19,000
Elbing and Peabody	8,655	8,700
Fox-Bush	5,400	5,420
Augusta and Douglas	3,235	3,240
Blankenship	3,095	3,180
Florence and Covert	2,610	2 615
Leon and Weaver	1,000	1,000
Other fields	19,590	19,500
Totals	79,475	79,245

Texas

Corsicana-Powell	86,085	88,000
Archer County	30,410	32,335
Mexia	29,500	29,000
Electra	21,025	21,950
Burkburnett	19,290	20,555
Stephens County (est.)	20,170	19,860
Richland	12,000	8,760
Desdemona-Gorman	3,360	7,455
Ranger-Eastland	9 740	7,385
Young County	4,730	4,445
Moran-Shackelford County	3,550	3,710
Currie	2,900	2,890
K-M-A	3,085	3,210
Iowa Park-Shappell	1,690	1,815
Mitchell County	1,455	1,540
Reagan County	3,500	1,700
Strawn-Palo Pinto County	650	840
Panhandle District	525	525
Brown County	500	740
Petrolia-Clay County	330	330
Coleman County	130	130
Thrall-Williamson County	55	60
Jack County	30	30
Scurry County	15	15
Totals	254,725	257,275

GULF COAST

Hull	21,500	21,500
West Columbia	11,800	12,000
Goose Creek	11,525	11,750
Orange	10,175	9,200
Humble	5,775	6,900
Sour Lake	4,425	4,450
Batson	1,525	1,570
Saratoga	1 475	1,475
Damon Mound	1,475	1,425
Spindle Top	975	965
Blue Ridge	625	725
Richmond	350	200
Pierce Junction	300	350
Markham	225	350
Barbers Hill	180	185
Dayton	140	140
High Island	125	60
Nacogdoches	110	110
Hockley	30	25
Stratton Ridge	..	..
Big Hill	..	..
Totals	72,735	73,380
Total North Texas	254,725	257,275
Luling	42,000	39,000
Mirando	4,100	4,200
Somerset	2,800	2,800
Rockdale-Minerva	550	565
Total Texas	376,910	377,220

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	†Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyoming-Montana	Calif.	Ark.	U. S. Total
August	726,981	217,208	105,966	323,148	89,998	419,775	97,936	120,750	83,938	375,000	28,834	1,618,765
September	716,107	207,467	107,790	314,932	89,760	418,880	101,857	114,200	80,490	387,000	33,135	1,540,371
October	714,906	200,465	115,130	316,370	90,404	424,037	97,502	116,375	86,412	423,750	34,127	1,489,005
November	711,521	199,223	114,150	388,376	91,098	421,200	93,410	116,375	106,092	450,000	77,225	1,668,776
December	692,702	170,187	111,819	242,010	87,508	435,007	86,513	114,900	103,679	484,000	107,732	1,722,349
January (1923)	708,372	184,885	115,628	304,790	86,720	436,767	81,205	113,500	123,254	517,500	111,920	1,770,645
February	712,007	180,364	96,984	286,493	85,298	446,345	78,068	112,500	110,328	587,500	101,346	1,805,496
March	720,287	184,582	89,873	283,355	86,012	449,693	75,352	109,900	118,580	653,000	108,630	1,888,522
April	756,381	192,148	92,320	293,780	86,133	478,100	76,854	106,000	127,860	711,250	102,099	1,983,026
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421,763	68,935	108,400	157,742	858,700	127,955	2,269,176
October	876,059	408,036	84,120	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	287,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,591	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,049	1,987,041
January (1924)	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February	729,933	254,180	81,131	362,849	68,183	407,568	59,449	104,500	141,775	675,425	114,726	1,934,476
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128.750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July 5	812,510	257,275	73,380	377,220	79,245	475,990	61,575	107,500	120,200	619,500	148,870	1,990,100
July 12	813,980	254,725	72,735	376,910	79,475	479,780	63,635	106,700	122,500	615,000	147,825	1,991,825

*Includes North-Central Texas, Kansas, Oklahoma.

†Beginning February, 1923, Somerset, Mirando, Rockdale and Luling production included.

NOTE—Mexia production included in North Central Texas.

Imports of Petroleum at Principal United States Ports

The following represents the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
April	370,000	669,000	1,074,000	625,000	591,000	3,319,000	1,615,000	1,020,000	1,135,000	168,000	4,362,500	7,681,500
May	344,000	515,000	1,026,000	437,000	615,000	2,937,000	1,351,000	910,000	1,184,000	127,000	3,582,000	6,519,000
June	314,000	421,000	1,791,000	755,000	809,000	4,090,000	1,515,000	1,142,000	1,062,000	229,000	3,948,000	8,038,000
July	287,000	465,000	1,806,000	448,000	898,000	3,876,000	1,471,000	1,120,000	833,000	92,000	3,516,000	7,392,000
September	268,000	565,000	1,744,000	660,000	686,000	3,923,000	1,776,000	1,397,000	880,000	224,000	4,277,000	8,202,000
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
February	520,000	527,000	639,000	458,000	771,000	2,865,000	1,558,000	1,284,000	525,000	195,000	3,562,000	6,427,000
March	802,000	734,000	1,243,000	502,000	1,668,000	5,049,000	2,346,000	1,689,000	1,116,000	301,000	5,257,000	10,281,000
April	653,000	664,000	1,371,000	407,000	1,067,000	4,162,000	1,641,000	1,492,000	510,000	68,000	3,711,000	7,873,000
May	693,000	638,000	1,368,000	264,000	1,329,000	4,272,000	1,398,000	1,308,000	884,000	169,000	3,759,000	8,031 000
June	515,000	466,000	1,864,000	292.000	1,026,000	4,163,000	1,769,000	1,079,000	685,000	145,000	3,678,000	7,841,000
July 5	75,000	.....	381,000	238,000	218,000	912,000	345,000	121,000	197,000	40,000	703,000	1,615,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at all Ports
March	442,000	184,000	1,355,000	496,000	615,000	2,691,000	.....	.....	.....	.....	.....	2,691,000
April	105,000	256,000	2,456,000	502,000	320,000	3,639,000	.....	478,000	.....	.....	478,000	4,117,000
May	444,000	72,000	1,259,000	764,000	964,000	3,553,000	.....	300,000	53,000	.....	353,000	3,906,000
June	821,000	160,000	3,206,000	826,000	808,000	5,821,000	.....	664,000	.....	.....	664,000	6,485,000
July	443,000	75,000	2,068,000	741,000	699,000	4,080,000	.....	559,000	.....	.....	559,000	4,639,000
August	329,000	229,000	2,956,000	836,000	683,000	5,033,000	.....	970,000	70,000	.....	1,040,000	6,073,000
September	1,028,000	237,000	2,581,000	621,000	443,000	4,910,000	.....	703,000	.....	.....	703,000	5,613,000
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,000
January	619,000	77,000	3,156,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
February	326,000	145,000	2,811,000	842,000	75,000	4,199,000	.....	810,000	.....	.....	810,000	5,009,000
March	298,000	77,000	3,352,000	989,000	413,000	5,129,000	.....	.....	.....	.....	.....	5,129,000
April	170,000	77,000	2,633,000	378,000	224,000	3,482,000	.....	.....	.....	.....	.....	3,482,000
May	190,000	147,000	2,771,000	411,000	273,000	3,792,000	.....	315,000	.....	.....	315,000	4,107,000
June	522,000	147,000	2,490,000	443,000	220,000	3,822,000	.....	.....	.....	.....	.....	3,822,000
July 5	72,000	.....	400,000	.....	75,000	547,000	.....	.....	.....	.....	.....	547,000

Note—Figures by American Petroleum Institute.

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Oklahoma Permits Showing Curtailment

Failure of Prairie Pipe Line Company to fall in line with Sinclair on price change causes optimism

By W. Lee Sloan

Tulsa, Okla., July 16.—A small decrease in the number of drilling permits for the state of Oklahoma during the past week is possibly the forerunner of an absolute curtailment in field activities by all parties concerned and is the first noticeable act of the independent operator to heed the warning posted that the state was again entering a period of over-production. Sixty permits were issued during the week, a figure some ten locations less than the week previous.

The act of the Sinclair Crude Oil Purchasing Company in eliminating the highest grade crude and posting a price for 33 gravity and above of $1.75 per barrel as the highest price to be paid by that company does not seem to have had much effect upon the other major purchasers in the Mid-Continent field and Prairie Oil and Gas Company, premier purchaser of crude in this area, continues to pay $2.25 per barrel for oil of 39 gravity and above. A spirit of uneasiness was evident, however, for a few days after the Sinclair action, but the producers now seem optimistic as each day passed without the Prairie showing any outward signs of a cut in price. Operators in the Cromwell pool who have their wells connected to the Sinclair Pipe Line Company will feel the price cut as much of the oil produced there is high gravity crude. Sinclair is now taking 9480 barrels daily from the Cromwell pool.

Cromwell

The production of the Cromwell pool continues to climb and the daily output has now reached 38,150 barrels per day, an increase over the week previous of 5068 barrels from three new wells. Pipe line runs show that the movement of oil from the field is running higher than the production, showing that stocks are being moved as quickly as possible. Pipe line runs are given as 53,886 barrels per day, distributed as follows:

	Barrels
Prairie Pipe Line Co.	11,384
Sinclair Pipe Line Co.	9,481
Gulf Pipe Line Co. (Gypsy)	9,456
Cosden Pipe Line Co.	6,362
Magnolia Petroleum Co.	4,857
Oklahoma Pipe Line Co. (Carter)	3,435
Producers & Refiners	925
Storage	7,090
Loading Racks	816

It has been predicted that the Cromwell field will reach a daily average production figure of 50,000 barrels within the next two weeks as indicated by the number of wells now on the sand, all of which are expected to be good producers. The Tidal-Osage Oil Company No. 7 Bruner, in the northwest of the northeast of section 21-10-8 is now producing 50 barrels per hour after being deepened to 3553 feet and No. 4 of the same company increased from 15 barrels per hour to 45 barrels per hour after reaching a total depth of 3511 feet. This well is located in the northeast of the northeast of the northeast of section 21-10-8. The Cromwell and Pure Oil Company well in section 9-10-8 is spraying oil after drilling five feet into the pay found at 3395 feet. Eleven million cubic feet of gas found in the well blew the tools out of the hole and wrecked the derrick. The Livingston Oil Company and Gilliland Oil Company No. 1, in the northeast of the southwest of the northeast of section 16-10-8 is one of the largest producers of the week, making 113 barrels per hour during the first three hours after completion.

Gilliland Oil Company's No. 1 Proctor, center of the northeast of the southwest of the northeast of section 16-10-8, is making 3872 barrels daily from 3492 to 3510 feet. Hoffer Oil Company's No. 3 Stidham, center of the northwest of the southeast of the northeast of section 16-10-8, came in Tuesday making 160 barrels of oil per hour from sand at 3456 to 3475 feet. The Gypsy Oil Company deepened No. 2 Bruner in section 16-10-8 to 3556 feet, increaseing its production to 60 barrels per hour.

Stroud Declining

The Stroud pool in Lincoln County continues to decline in daily production, a decrease shown during the past week of 2695 barrels under the week previous. Twenty-four wells in the field are now producing a total of 19,541 barrels, a large amount of which is being run to storage as the pipe line companies are not taking a very large amount of the oil produced. Like Cromwell, the Stroud field will soon be a vertitable sea of storage tanks. Amerada Petroleum Corporation is erecting four 55's, Farrow and Wood are putting up two 55's, and the Pulaski Oil Company has let a contract for three tanks of the same capacity.

The Roxana Petroleum Company extended the Stroud pool about a half mile to the south with its No. 1 Brace, in the northeast of the southwest of section 12-14-6, when the well made 35 barrels the first hour after drilling to 4114 feet. Sand was toppd in the well at 4103 feet, flowed by heads from 4106 feet and made the first steady flow at 4112 feet. Effie Zollers No. 2 of the Roxana Company, in the northeast corner of the southwest of the northwest of section 1-14-6, has been deepened to 4146 feet and it is now making 861 barrels per day.

An important wildcat well is the Magnolia Petroleum Corporation's No. 1 in the northern corner of the northwest of section 32-15-4, in Lincoln County, which made 15,000,000 cubic feet of dry gas from a sand topped at 1766 feet.

Offsetting the largest well to be completed in the Wetumka area of northern Hughes County, the Berry Petroleum Company No. 2 Alexander came in making 95 barrels per hour from a total depth of 3337 feet. The well is located in the southeast corner of the northwest of the northeast of section 4-9-9. Champlin and Winkler have a hole full of water at 3351 feet in their well in section 17-9-9. Margay Oil Corporation No. 2, in the northwest of the northwest of section 17-9-9 is showing water and the Wilcox Oil and Gas Company No. 2 in the same section found water and some gas in a sand at 3093 feet.

Tonkawa Wells Hold Up

In the deep pay at Tonkawa, the three wells completed continue to hold their average of 2500 barrels each per day. No. 4-W Carmichael of the Comar Oil Company, the third well to find the Slick sand, is making 2750 barrels daily from a total depth of 4159 feet. Comar Oil Company's No. 4 Koppenbrink, in the southwest corner of the northeast of the southwest of section 36-25-1 west, has a hole full of water at 4480 feet. It is located one mile east of the three producers in the deep sand. Comar has more than a dozen wells drilling to the deep sand. The next completion for the deep sand will be the Comar Oil Company's No. 1 McCutcheon, in the center of the northwest of the northwest of the southwest of section 11-24-1 west which has already topped the sand at 4140 feet and is showing a large amount of gas and some oil.

Prairie Oil and Gas Company found the Wilcox sand in its No. 5 Freeman Kernal well in the southeast of section 30-14-8 and it is making 1080 barrels of 42 gravity oil per day. The Wilcox sand was found in the well at 3401 feet.

Thirty-one million feet of gas was found in No. 1 Miracle of the Gibson-Zahniser Oil Corporation in the southeast of the northwest of section 25-11-9, two and one-half miles south of the town of Okemah, Okfuskee County. The gas sand was found and drilled through at 3138 feet.

The Kingwood Oil Company No. 1 Hawkins, the wildcat test in the southeast of the northeast of section 12-7-9, Hughes County which reported 600 feet of oil in the hole last week, encountered a hole full of water at 3466 feet and the 6-inch is now being run to case off the water and drill deeper.

The Marland Oil Company No. 9 Pettit in section 20-23-8, Hominy district of Osage County, which came in last week for the prolific flow of 320 barrels per hour from the Wilcox sand is still pinched in.

Production for the major pools of Oklahoma, are are as follows:

Burbank (Osage County side), 67,292 barrels from 1343 wells. Burbank (Kay County extension), 20,170 barrels from 186 wells. Total for the Burbank field, 87,462 barrels. Cromwell, 38.150 barrels from 37 wells. Wewoka, 8295 barrels. Gilcrease-Papoose, 7441 barrels from 23 wells. Stroud, 10,541 barrels from 24 wells. Tonkawa, 36,243 barrels from 675 wells.

Kansas Completions Register Extensions for Old Pools and Bring Success to Wildcat Wells

Wichita, Kansas, July 16.—The center of interest in Kansas during the past week was in Greenwood County. Bradford, Frazier and Davis, drilling in the southeast corner of section 21-22-10, on the Malone-Souder farm, completed a well good for 100 barrels in the Bartlesville sand at 2135 to 2166 feet. Under this was three feet of coarse sand and then the bit went into shale. The well was shot Wednesday and was reported as swabbing between 300 and 400 barrels. It is thought that it will go on the pump at 200 to 300 barrels.

This will open up another new pool in sands found at 1136 to 2116 feet, and may be an extension to the Harris pool, located a mile east and a mile south, but the general belief is that it is the opening of a new pool. Owing to the fact that the oil is coming from the Bartlesville sand and showing no water, the well is believed to be a forerunner of a pool of considerable dimensions.

Marland Oil Company is dickering with the Trees Oil Company for acquisition of the Trees well in northeast corner section of section 10-31-3e, Cowley County, Kansas, as well as several hundred acres around the well.

Kay County Gas Company, pipe line subsidiary of Marland, began running crude this morning through its six-inch line from the Rainbow Bend field in Cowley County, Kansas, to Ponca City, Oklahoma.

The Alcorn Oil Company of Ponca City, Oklahoma, probably has opened a new pool. It is located five miles west of Independence, and is of importance as indicated by the performance of this new well. The well swabbed and flowed 416 barrels in the first 14 hours. Later on, in a twelve hour test it flowed and swabbed 301 barrels. It is looked upon by some as good for 600 barrels. The well is on the Graham farm in section 9-33-3w, and is shut down for erection of tankage.

Deep Wells

The Watchorn Oil Company's No. 1 Keithley, in the northeast quarter of 36-32-4, two miles east of Winfield was deepened and at four feet in the sand was flowing 200 barrels. The sand is located at 3102 feet. Some think it is an extension of the Hull Company's sand. The well is shut down at the last report for orders.

This well, with the Hull Company's newly completed well, is believed to indicate a deep sand pool of considerable dimensions east of Winfield, where heretofore production has been small and from the sands at 600 to 2000 feet. The J. A. Hull Company's well is located in the center of west line of the northwest of southeast of section 24-32-4, near Winfield on the Wallace farm. It is believed it will be good for from 200 to 300 barrels daily when cleaned out. The oil tests 42.5 gravity.

The Red Bank Oil Company's No. 1 Coleman, in section 28-32-10, western Montgomery County, was still pinched in and flowing at a rate estimated at 1000 barrels. The well probably will not be opened up until arrangements can be made for moving the oil.

During the next few days the Rainbow Bend field is expected to be the center of interest with the completion of the Kay County Gas Company pipeline to Ponca City. Already there are three wells on the top of the sand ready to drill in. At this time there are but four wells producing. They are: Johnson No. 1, Glasgow No. 1, Wertman No. 1 and Johnson No. 2. With the addition of the expected three new wells, the production of the field will increase materially.

The Amerada Petroleum Corporation made an important strike in Lincoln County, when it got two million feet of gas at 1400 feet. The well is located on the Crawford farm in section 16-11-7, which is five miles northeast of Lincoln.

The oil fields west and south of Augusta were wrecked by a storm which swept that district in the earlier part of the week. Telephone poles, oil tanks, lease houses and derricks were scattered over an area of several miles. It was impossible to estimate the damage or determine whether there was any loss of life, owing to the fact that rescue parties had not reached the district. In the city of Augusta three persons are known to be dead and the damage to property is estimated at $1,000,000. The severe wind and rain storm also swept McPherson County.

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Pressure of Proration and Reduced Prices Having Effect in Curtailing Drilling in North Texas

Wichita Falls, Texas, July 15.—Crude price schedules and buying plans posted by the major purchasing agencies in the North and Central West Texas district oil fields were changed at frequent intervals during the past week, and with only one exception each new order put into effect was detrimental to the position of the producer. The single order that reacts to the advantage of the producer is The Texas Company's action in reducing its crude storage charges from three cents per barrel per month to two cents, but at the same time The Texas Company announced that these storage charges must be paid in cash every month, while heretofore storage fees have been allowed to ride until the oil is disposed of. This reduction in storage charges followed the company's action in prorating its purchases in all fields 50 per cent and taking the remaining portion for storage for the account of the producer, and the company later reduced its posted price to $2 for 33 gravity and above in all fields. This crude reduction will be particularly felt in the North Texas district, as The Texas Company is the largest individual buyer in Wichita and Archer Counties, and virtually all the crude produced in these two counties is above 33 gravity.

Acting under pressure of reduced crude prices and proration runs, the operators in the North and Central West Texas fields are holding new developments in check to a noticeable degree, but continue to drill in wells that were started some weeks ago. It is these wells that are accounting for the new production reported from each of the fields, but the volume is falling off rapidly. Archer County only added 9 small pumpers during the past week, with a combined initial production of less than 700 barrels, while 13 dry holes were included in the list of completions. Wichita County's new production is largely confined to the south part of the county on the Burnett ranch and in the Beaver Creek area, and the two largest wells reported last week were the Electra Gulf Oil Company's two completions on the Mrs. Murray lease.

Active tests underway in Archer County slumped to 53 on July 12, with 24 shut down for pipe line connections, funds and other causes, while the field reports show only 18 rigs and derricks, and one location, making a total of 96 operations for the county. The Wichita Pipe Line Company has completed about ten miles of its 4-inch extension line from the Wilmot-Wilson field to the Swastika pool, a distance of about 25 miles. This company is using pipe obtained by purchase of the old Sterling line that connected a Grandfield refinery with the Burkburnett field. Andrade and others' Pease Estate 1, located east of The Texas Company's wildcat oil producer, failed to make a producer from the regular sand at 1447-53 feet, and has been abandoned at 1500 feet. Wait Phillips wildcat test on the Wilson ranch in the W. M. Horrits survey gives promise of opening up a new pool for the county from a sand at 1334-35½ feet, and is re-setting casing to shut off water coming through leaky casing seat.

Throckmorton County added another shallow gasser early this week when Bruce Larkin and others' H. E. Conger 1, located in section 943, T. E. & L. Company survey, blew in making about four million feet of gas from three feet of sand at a total depth of 1168 feet.

In Wilbarger County, Wells & Guiberson's A. B. Wharton 1, located in the South Vernon oil and gas field, has drilled through a gas sand at 1506-13 feet making about 1,000,000 cubic feet of gas daily, and will drill deeper for the lower sand found at the 1900-foot level.

Magnolia Petroleum Company is laying a two-inch line from the Petrolia field to the east part of Clay County to connect up with the oil producer recently completed by E. C. D'Yarmett et al on the O. Bullington farm and the same line will also furnish a pipe line outlet for the producers on the Knox Findley lease.

A semi-widcat shallow test drilled by Baker & Edson on the J. S. Crowley land, located in section 33 and southwest of Necessity in Stephens County is spraying oil with a flow of 6,000,000 cubic feet of gas from top of sand at 2235 feet, but will not be drilled in until pipe line connections are available. In the North Caddo field in the east half of Stephens County, Samuels, Walker & Stewart's Fee 1 is flowing about 260 barrels of oil daily while drilling in lime pay at 3260 feet, while a second test on this fee land is making 300 barrels daily while drilling pay at 3245 feet. These two producers are located in the southwest quarter of section 6, and offset large producers. On the east edge of this field, Marchbanks & Moore's J. B. Hudspeth 1, located in the southwest quarter of section 7, has been completed with an initial flow of 40 barrels and three million cubic feet of wet gas at 3218-50 feet.

Magnolia Petroleum Company's deep test on the J. V. Gardner farm in the Curry pool section of Stephens County encountered a show of oil at 4399 feet last wek, and is now drilling below 4415 feet. This test was deepened to the 3900 foot pay, but failed to show oil or gas, and is to be carried as deep as possible, according to officials of the company. Humble's A. J. Jones 2 encountered a flow of gas at 3865 feet, and is now drilling ahead in black lime below 3920 feet.

Eighth Producer Brands Reagan County Pool As Factor in Crude Oil Output of Country

Fort Worth, Texas, July 14.—Completion of the Big Lake Oil Company's eighth oil producer on University of Texas lands in Reagan County section of West Texas last Friday with initial flow as high as 115 barrels of oil per hour materially enhances the importance of this new oil field. In all probabilities a huge drilling campaign would be underway if all the close in acreage was not held by the above company and the Texon Oil and Land Company, which brought in the discovery well. This last completion is the second big producer complete to the east and northeast of the discovery well by the Big Lake Oil Company, and is known as University No. 10. It is located 1600 feet due north of the same company's University 9, which came in on the morning of June 20 flowing about 1250 barrels of oil daily from five feet of sandy lime drilled to 2982 feet and later increased to 1600 barrels when the tools were pulled. The University No. 10 was drilled about four feet into the pay to a depth of 2950 feet on the morning of July 11, and at 3 p. m. the production gauged 115 barrels per hour, but gradually settled to about 65 barrels per hour, and at last reports was still maintaining this rate.

The Big Lake Oil Company has experienced difficulty in handling the production from its most recent flowing well, as University No. 9 continues to flow between fourteen and sixteen hundred barrels daily, and only a limited amount of tankage is in the field. It is reported early this week that additional small tankage will be available shortly. The Big Lake Oil Company has placed orders for two 55,000 barrel tanks for immediate delivery. In the meantime tank car shipments are being made to refineries at Fort Worth and El Paso.

Possibilities of a shallower oil producing horizon being developed on the east edge of the present field were considered bright last week after good showings were reported from wildcats now drilling. Wm. Dunning and Humble Oil and Refining Company's Sawyer Cattle Company 1, located in section 93, T. & P. Ry. survey, block 1, Reagan County, logged a good show of oil in sand at 2385 to 2400 feet, and bailed some oil from the hole, but passed it up, and are now drilling below 2800 feet. The Big Lake Oil Company's University 11, located in section 22, block 9, reported a good show of oil from 2515 to 2518 feet, while the Texon Oil and Land Company's University 1, section 1, block 8, also had a show of oil in a shallow horizon. The next completion due in the field is the Big Lake Oil Company's University 11, which will extend the producing area a full half mile to the east from the same company's University 5, which is more than one mile northeast of other producers in the field.

Two Producers Added to Laredo Field During Week

Laredo, Texas, July 14.—Richmond-Garcia Oil Company No. 6 bailed in for 125 barrels, and No. 2 of the Texical Oil Company for 100 barrels, were the producers added to the Laredo field during the past week. Both are located in Webb County in the Mid Ojuelos pool.

Two wildcats cored sands that promise production, and if brought in will mean large extension to the present proven area. The Iowa-Texas-Oklahoma Oil Company is drilling in No. 2 on the Peters ranch in the Northwestern part of Duval County on survey 33, cored at 2047 feet in considerable gas showing. The Carpenter-Field Company No. 2, formerly of the Mesquite Oil Company, also cored promising gas sand at 1600 feet. Casing is now being hauled and will be set within the next few days.

In No. 3, block 20, in the Schott pool, Alworth Brothers are drilling below 1000 feet. Carnahan Producing and Refining Company has erected a derrick for No. 6, block 10, and for No. 18, on survey 53. O. W. Killam No. 1, survey 463, bailed dry but is now being drilled deeper. Kirkpatrick-Lewis is preparing to move on No. 3, block 20. Laredo Oil Company set casing on No. 8 at 1640.

In the Aviator Pool, Andrews Petroleum Corporation is preparing to drill in No. 1, block 49. Associated Oil Company drilling in No. 11, and erected a derrick for No. 12, on survey 607.

Dauchy-Bryant encountered rich oil sand at 1710 feet, setting casing at 1706 feet. Rydal Oil Company set casing in No. 2.

In the Mid Ojuelos Pool the Alonzo Oil Company set casing in No. 5. Cintex Petroleum Company spudded No. 6, and is now drilling below 100 feet. Cornhuskers Oil Company has completed a derrick for No. 5. Olson et al are moving on tools for No. 4. block 49. The Richmond-Garcia Oil Company is moving on timber for No. 7. The Shasta Oil Company spudded No. 7, block 50. Wheatley et al discontinued all drilling actions temporarily.

In the Wolcott Pool, Calumet Petroleum Company set casing at 1752 feet. The well is now being bailed and promises to be a good producer. This test offsets one of the steadiest producers in the pool. Magnolia Petroleum Company is drilling No. 11, block 49, with a Star rig. D. H. Jones is drilling below 1000 feet in No. 1, block 47 of the Ochoa partition.

In the Bruni Field, Cole Petroleum Company is reaming around 1615 feet, ratholing each foot. They expect to encounter the same gas horizon in No. 2 within the next 50 feet. This test looks promising.

The Carolina Texas Oil and Gas Trust is drilling in hard rock at 2700 feet in No. 6. Morgan-Gibble No. 2 is drilling below 1960 feet. The Witherspoon Oil Company has distributed the pipe for the gas line which will be run from the Morgan-Gibble well to deliver fuel. Acreage near this test seems to be in demand.

The A. D. J. Oil Company No. 2B, among the wildcats in Webb County, encountered hard drilling at 4410 feet. Favorable formations have been encountered, and the test will be carried on down. The Boyd Oil Company is drilling below 2440 feet in No. 1, survey 17 of the I. & G. N. grant. A test drilling on the Henry Yeager ranch, portion 33, about 12 miles east of Laredo is now below 1000 feet.

In Jim Hogg County, Henne, Winch and Fariss are drilling below 500 feet in No. 2, block 3, survey 256. This location is about 700 feet southeast of the recent gasser which gauged 60,000,000 cubic feet. J. W. Pippin is reaming No. 1, survey 51 at Randado, to set casing at 1809 feet. A core taken just below this depth in the Fresno test to the north on survey 19, that had an excellent showing. It was decided to make a test.

E. R. Perry of Tulsa, vice president and general manager of Cosden & Co., sailed from New York last week on a pleasure trip to European countries.

Amos L. Beaty, president of The Texas Company, has sailed from New York on a trip to European points.

H. H. Bailey, field representative of the LeBus Rotary Tool Works of Electra, Texas, is on a trip through the South Texas territory in the interest of the company's products.

A. C. Bedford of New York, chairman of the board of the Standard Oil Company (New Jersey), sailed last week for a short business trip to Europe.

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Try a Few and Judge for Yourself
At Your Supply Store or Direct
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Waco, Texas

Cotton Valley Drilling Not Affected by Price Change; Gasser Extends Area a Mile and a Half

Shreveport, La., July 14.—The Cotton Valley Field was extened a mile and a half west and southwest yesterday by the completion of the Ohio Oil Company's No. 1 Crichton, located in the northeast corner of the southeast quarter of section 21-21-10. The well is a dry gasser capable, it is estimated, of producing from 30 to 40 million cubic feet per day. It was permitted to blow open for only a short time before being shut in. It was completed in 9 feet of sand at a total depth of 2542 feet, elevation 226 feet.

The rig which was used to drill this well is being moved to the Holloway tract, in section 23, where an offset to the Fortuna Oil Company's Cox gasser is to be begun at once. It is said that the Crichton well is to be used as a source of fuel supply for the Ohio's field operations. In this connection, it has been reported that the Hodges (Bodcau) No. 1, located in the northeast corner of the southeast quarter of section 15, a dry gasser which heretofore has supplied the Ohio's fuel, is to be deepened in search of oil production.

Hude & Aarnes are drilling in today, having penetrated the cap rock at 2498 feet in their No. 1 Cox, located in the northwest quarter of section 22, a half mile northeast of the Ohio's extension, and in the direction of the field. The cap was encountered still higher, by a few feet, in this well than in the extension well, indicating that either the southern or southwestern slope of the structure has been approached.

Completion is recorded this week of the Humble Oil and Refining Company's No. 2 Hodges (Bodcau), in section 11, which failed to flow when bailed but is now being blown successfully. It is credited with a daily production of 3500 barrels of oil.

The Invincible Oil Company's No. 2 Merritt, in section 14, the first well in the field to be put on the beam, is pumping upward of 300 barrels of oil per day. It is said that the No. 3 well on this same tract may be put on air tomorrow, it having heretofore failed to flow naturally.

The Fortuna Oil Company's No. 1 Merritt, in the same section, has been put on the beam, but no gauge is available as yet. The Ohio, Humble and Woodley companies are said to be shipping in air jammers for use in the Cotton Valley Field, and it appears that air may prove an important factor in the operation of those wells located along the northern edge of the field.

Several steel derricks are being used on drilling wells in the new field. The practice of drilling with steel derricks is as yet uncommon in this territory, although they have been used extensively in replacements on pumping wells.

The lime marker is said to have been encountered at a favorably high level in Belchic and Laskey's No. 1 Logan, located near the center of the south line of section 2-21-10, one mile north of what heretofore has been accepted as the north boundary of the field. If this well should produce oil or gas in commercial quantity, it would thereby upset all the dope again, as the water wells located along the south line of section 11 have been thought to mark the northern limit of the productive area.

The reduction in crude prices posted last Wednesday has had no appreciable effect on operations at Cotton Valley. Had the Ohio's extension failed to come in, the boom might have subsided at the completion of wells now drilling, as no really big production has as yet been developed, but, with so large a territory now proven to be productive of gas, and potentially of oil, it seems unlikely that a suspension of drilling is now possible.

Bellevue

Salt water encroachment has forced the installation of a number of standard pumping rigs in the Bellevue shallow field, in Bossier Parish, where pumping has heretofore been done almost altogether by jacks and rod lines from central power stations. This arrangement, however, does not permit the use of long or fast strokes, hence the installation of standard rigs to handle the larger quantities of fluid now available.

Bethany

The Bethany gas field, just across the line in Panola County, Texas, burst into the limelight again last week with the report that a well drilled by the Arkansas Fuel Oil Company on the Crenshaw tract, Ben C. Jordan Headright survey, made several heads of light oil over the derrick. A packer and a string of casing were set in the hole yesterday, but it is making only occasional small heads, which might total ten or fifteen barrels of oil per day. Its production tests above 45 degrees. Total depth of the hole is logged as 1952 feet. It was bailed dry once at 1933 feet. Several small pumping wells have been completed in this field during recent years, but none of them has amounted to much.

Price Change Affects Runs of Arkansas Heavy

Shreveport, La., July 14.—A further decline of 4000 barrels per day in the runs from the Smackover heavy district occurred last week. The reduction of 15 cents per barrel posted by the Standard and Texas Companies on July 9 came as a severe blow to Smackover operators, and indications are that operations are to be curtailed considerably as a result. However, the crude market is comparatively active on the new basis, and, with tank car movements to seaboard increasing daily, it is likely that considerable inroad may soon be made on the vast stocks of crude now stored in this district.

The first shipment of consequence, a trainload, was made last week by Smitherman and McDonald from the Irma field, in Nevada County, following the completion by the Mansfield Hardwood Lumber Company of a standard gauge extension of its tramroad from Reeder, Ark., to a terminus in section 10-14-21. This field, the newest in this state, was opened more than a year ago; but it has not been extensively developed because of a lack of transportation and marketing facilities, coupled with the fact that it is of very low gravity, about 14 degrees. Approximately a quarter of a million barrels of this heavy oil is now on hand in the field, awaiting shipment. An average daily production of 1490 barrels was reported from this new district last week. No production has as yet been developed outside of sections 10 and 11 of township 14-21.

A slight showing of heavy oil was obtained last week during the test of the Eaves wildcat, in section 11-12-23, Nevada County, which was bailed at 1040 feet. This well and surrounding acreage was purchased about two months ago by T. Walker Murray from Anderson and Edwards.

Large Number of Wells Proposed at Luling

Luling, Texas, July 14.—The United North and South Oil Company will drill 118 new wells in Guadalupe and Caldwell Counties within the next 30 to 60 days. Six completions were also reported during the week by the same company. A total of 50,000 barrels of oil is now being shipped from the field daily. It is believed that the output will be increased to 100,000 within the next two months. The daily production in the field is averaging 60,000 barrels of crude.

Forty-three derricks are being moved on to the grounds and wells will be spudded in during the next few days. There will be 78 of the 118 wells drilled in Guadalupe County, while the number for Caldwell County is uncertain.

Several leases on the edge of the field have been purchased by the company for deep tests, it is reported. There will also be several wildcats and edge tests.

The Nos. 9, 10, 15 and 19 A. J. Baker of the United North and South Oil Company were completed during the week and the first wells are making between 300 and 500 barrels of oil. The latter is producing about 1000 barrels. With the completions there are 19 producers on the Baker lease, in the northern section of Guadalupe County at the bank of the San Marcos River.

The other wells completed by the United North and South were on the Trammel and McKean leases. The Trammel in Caldwell is estimated at 700 barrels, while the latter is reported to be making 800 barrels. This well is an offset to the Harris lease.

There has been an upward trend in the leasing in Calwell County with the installing of a rig by J. S. Solomon on the old No. 1 Walker, two miles east of the Caldwell section of the field. This well was drilled by the Big Gusher Oil Company months ago and today is flowing a small amount of oil.

It is announced that the Magnolia Petroleum Company will complete its pipe line within the next few days and have oil running in it in that time.

West Canadian Drilling Not Up to Forecast; Carbon Black Development Pending Protest Filed

Calgary, Alta., July 12.—Despite optimistic predictions that July would see a score of drilling outfits at work in the Irma-Wainwright field, the commencement of the month finds only four outfits actually drilling, with a fifth ready to spud in. There is, however, considerable additional work in sight, though whether the operators concerned are awaiting the results of the drilling now under way remains to be seen.

British Petroleums, Ltd., which last year encountered the first heavy oil production in this area, has two tests now under way. B. P. No. 3, section 29-45-6w4, is drilling below 1100 feet. No. 4, a short distance from No. 3, is drilling below 300 feet, after setting its 12½-inch casing at 205 feet.

Maple Leaf Oil Company, section 24-45-8w4, encountered some gas at 565 feet, and traces of oil are also claimed. At this depth, however, such showings have no bearing on the ultimate result of the test, whichis now drilling somewhere between 775 and 800 feet.

Wainwright Oil Producers Syndicate, section 36-44-7w4, has spudded in; and Western Consolidated Oil Company section 20-45-6w4 should be under way within the next week.

The fate of the proposed carbon-black development in the Irma-Wainwright field is a trifle uncertain; though the federal government appears to have decided to allow the industry to operate. A carbon black permit has already been issued to British Petrotroleums, Ltd., which has a proven gas production in its No. 1 well and is likely to develop additional production from the drilling now under way. The Maple Leaf Oil Company is applying for a permit. Objection to utilization of the gas from this field for carbon black manufacture has been lodged with the department of the interior by the city of Edmonton, which fears that the drain on the Irma-Wainwright field will injuriously affect the Viking field from which the city secures its natural gas supply. The government takes the view that the Viking field is ample for the city's needs for 20 years to come, and that establishing a further gas reserve would interfere with and discourage the development of the oil resources in this part of Alberta.

In Acadia Valley the Fuego Oil Company, drilling on township 25-4w4, is underreaming and setting casing to shut off a heavy flow of water at 700 feet, after encountering a little gas at 565 feet.

In High Prairie district, Northern Alberta, the Prairie Oils test is down 1500 feet and waiting for casing. The test will likely be carried to 2500 feet if commercial production is not encountered earlier.

In Southern Alberta the Sanctuary Oil Company (Thompson syndicate), will complete its test on section 9-5-8w4 in Pakowki Lake district. The derrick was wrecked by a recent gas explosion, but the well itself seems to be undamaged, and drilling will be resumed as soon as the test can be rigged up again.

In the Foremost field Canadian Western Natural Gas Company No. 4 gasser has been shut in, pending completion of the new pipe line from Foremost to the Bow Island main line.

In Ontario the reported new shallow oil field in Dunwich township, Elgin County, has made a rather poor showing. The well drilled by the Peace River Development Company on the Edward Hatton farm, for which a flush production of 100 barrels a day was claimed several weeks ago, pumped 35 barrels actual production of very good crude in the first 24 hours, after which water came into the hole. Efforts will be made to shut off the water and get the well into production.

Another attempt to develop a shallow oil field is being made on Pelee Island, Essex County, where the Avonez syndicate, headed by Colonel Avonez of Oklahoma, is drilling No. 1 well on the Stuart farm, on the west side of the island. This looks like a fair prospect.

Despite recent failures, deep drilling is going ahead on several locations. In Essex County the Southern Ontario Gas Company has spudded in new t on lot 78, lake gravel road, in Colchester South township, just east of Harrow and some distance west of the Eagle Oil and Gas Company deep test at Arner.

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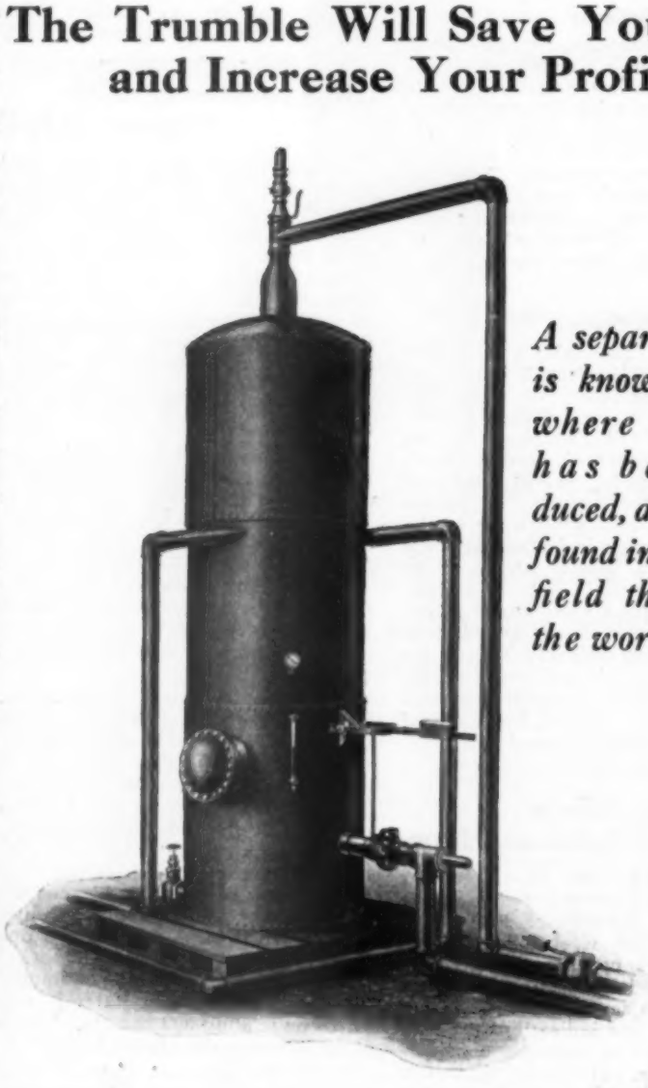

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French Ports Being Equipped to Handle Oil Imports in Bulk; Tank Ships to be Subsidized

Paris, July 1.—Import statistics show an increase in the importations into France of gasoline, kerosene and lubricating oils amounting to more than 750,000 metric tons from 1914 to 1923. This increase is due largely to the expansion of the automobile industry and to the adoption of gasoline as fuel in the navy and the merchant marine.

Before the war the petroleum importations of approximately 400,000 metric tons per year were handled by 10 petroleum companies, who acted also as distributors. At this period there was not a single oil tanker sailing under the French flag and practically all petroleum supplies were brought in on English boats. No French port was able to receive the large oil tankers of 10,000 to 15,000 tons and this service was rendered by boats of from 5000 to 600 tons. The French ports where petroleum was unloaded possessed no modern equipment and were openly exposed and without means of protection in case of war. No petroleum railway cars were in use and distribution was made in casks and five-gallon cans.

Although a certain amount of time will be necessary to do away with these unfavorable conditions, the French have now outlined a national policy and are striving toward improvement. The project of a pipe line from Havre to Paris has been abandoned as impracticable at present, because the tonnage of the reservoirs is not sufficient to assure supplies to make its erection and maintenance profitable. France already possesses a water freight route by the River Seine, by which transport rates are comparatively low.

The French petroleum fleet now comprises 26 boats with a net tonnage of 173,000 tons, of which 18 boats (136,000 tons) are of the merchant marine and 8 boats (37,000 tons) for army and navy supplies. This fleet is at present barely sufficient to bring into France one-half of its needs in petroleum products, but one of the aims of the new official petroleum bureau (Office National des Combustibles Liquides) will be to subsidize more ships.

As a result of the war and its requirements, numerous French ports have been equipped to receive petroleum supplies. The five most important of these are listed as follows:

Twelve other French ports, with reservoir tonnage ranging from 1100 to 59,000, now receive and discharge petroleum supplies, Brest, Cherbourg and Lorient having naval depots in addition to commercial business. St. Louise-du-Rhone, near Marseilles, Cette and Donges, near St. Nazaire, are reported as having modern equipment. Cherbourg is described as being unlikely to develop a large petroleum business, owing to its unfavorable location, but there is a project to make Brest an important petroleum port, as it is particularly well situated and is the only French port capable of receiving oil tankers of 10,000 tons.

The French petroleum ports do not dispose of sufficient reservoir tonnage to provide ample stocks in case of war or other crises. The French navy will soon require 400,000 tons of petroleum annually and should possess a reservoir capacity of 300,000 tons. Oil tankers for the petroleum fleet and tank cars for the distribution of petroleum are badly needed. However, the French government realizes its weakness in this regard, and two new petroleum ports are projected at Verdun and Talmont, near Bordeaux, at the mouth of the Gironde, and the new official petroleum bureau will actively aid in the improvement of present facilities for the transportation, distribution and storage of petroleum in France.

FIVE PRINCIPAL PETROLEUM PORTS OF FRANCE

Name	Reserve Tonnage	Petroleum Companies	Equipment and Comments
Rouen	292,000	10	Modern equipment with floating docks and railway sidings. Receives boats with draft of 7.5 meters (23.095 feet). Can discharge 700 tons per hour.
Havre	107,000	3 (Also 1 company in organization with 65,000 tons of reservoir.)	Modern equipment with pumping stations. Receives boats with draft of 10 meters (32.8 feet.)
Dunkirk	97,000	5 (Also 2 representatives of foreign companies.)	Modern equipment with underground pipes and pumps for handling.
Paulliac (Near Bordeaux)	85,000	1	Modern equipment with 8 reservoirs. Receives boats with draft of 9 meters (29.52 feet).
Marseilles	77,000	3	Excellent modern equipment with steam heating station and pumps.

Migrating Gas Increases Lyons-Quinn Production

Washington, D. C., July 15.—The results of a study of extraneous gas on the production of oil wells in the Lyons-Quinn field of Oklahoma, made by Department of the Interior engineers, is contained in Serial 2612, just issued by the Bureau of Mines.

There have been large increases in the oil production and cansinghead gas production of certain wells on the Quinn dome in this field, caused by large volumes of gas under high pressure entering the productive oil sand. The oil production of some of the leases in this part of the field temporarily increased over 100 per cent within a few days after gas entered the oil sand. Among the leases that had the greatest increases in oil production were those on which no gas wells were drilled but which were located up-slope on the structure in reference to gas wells on adjoining properties. It is conservatively estimated that 1,444,000,000 cubic feet of gas entered the productive oil sand and, up to January 1, 1924, caused an increase of about 950,000 barrels of oil from this sand.

The casing-head gas volumes of a number of wells producing between 25,000 and 75,000 cubic feet of gas per day increased to several hundred thousand cubic feet and a few wells increased to nearly two million cubic feet per day after extraneous gas entered the oil sand from which the wells were producing. The gas that affected the productive oil sand migrated from wells deepened into gas sand found below the oil sand.

Several companies operating on the Quinn dome requested the Bureau of Mines to make a study of conditions in that area relative to the effects that gas migrating from the lower gas sands had on the oil production and casinghead-gas production of wells producing from the Lyons oil sand. These operators expressed doubt regarding any ultimate beneficial effects of the gas on the production of oil as some of the wells which increased in oil production also increased in water production. Furthermore, most of the gas from oil wells that greatly increased in casing-head gas volume was turned into the air as the gasoline content was so low it was not profitable to extract the gasoline from it. In response to the operators' request, the Bureau of Mines, in co-operation with the Office of Indian Affairs, issued a report, a copy of which was furnished to each operator on the Quinn dome. The present report has been condensed from the general report furnished operators.

The Quinn dome is one of the few areas of this country where large volumes of gas under high pressure have been introduced or allowed to migrate directly from a separate gas sand into a producing oil sand. The use of gas from a separate gas sand to stimulate the production of oil from an oil sand has been a subject of considerable discussion among engineers and operators due to the economic features involved. As there has been but little information furnished regarding this problem, it is believed that data in this report regarding the conditions under which gas entered the Lyons oil sand, and the effects of gas on production from this sand, will be of interest.

Copies of Serial 2612, by M. J. Kirwan, may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

Esthonian Oil Shale Industry

Washington, D. C., July 10.—The development of the oil shale industry in Esthonia is discussed in detail in Petroleum Special Circular No. 111, based on report from C. J. Mayer, trade commissioner at Riga, Latvia. Copies of this circular may be obtained on application to the Petroleum Division.

Recent Crude Cut Expected to Check All Development Work in Eastern States

Pittsburgh, July 15.—Every producing field east of the Mississippi River was hit last week with a drop in the price of crude oil at the wells. These decreases ranged from 10 to 25 cents per barrel. Pennsylvania grades were given a 25-cent drop, Kentucky 15 cents and Ohio, Indiana and Illinois grades 10 cents each per barrel. This is the first cut for a long period in the last few months, as the prices have remained quite steady in these fields. A cut of 10 cents is felt by operators who own nothing but small stripping wells and a shut down in field operations may reasonably be expected. Any time that oil hits the $2 mark in Ohio, Indiana and Illinois there is no profit for the well owner, and with a $3 to $3.25 market for Pennsylvania grades, the operators can not see their way clear to continue development work. Eventually little will be done by the drill. Present drilling wells will be completed, but if reports from the fields are any criterion, little new work will start. Kentucky crude has also reached a price that is discouraging for further work and little wildcat work will be done.

That operators are completing their present drilling wells as rapidly as they can is shown by figures for the week with a total of 172 wells completed in all fields east of the Mississippi River. Of this number 100 were oil producing wells with a flush of but 1359 barrels, 29 dry holes and 43 gas wells, with a combined volume of 71,000,000 cubic feet. The gas companies will continue their development work, as the price of crude does in no way affect them, even should an oil well be found instead of a gas well.

One of the features of the Pennsylvania fields during the week was the finding of a 17-barrel producer on the Holman lease at Page Hollow, in the Warren County field. This section shows quite an activity, as it is the best of the recent completions there, and contracts have been closed for the drilling of quite a number of new wells in the area, unless the lowering of the crude prices brings about a change of the operators. Forest County has what appears to be an excellent producer found near the Town Line church on Whig Hill, by the Deerfield Oil and Gas Company, on the Ollie Stover. Forty feet of Queen sand was encountered and showed approximately 300,000 cubic feet of gas and an esimated production of 15 barrels of oil at a depth of 1550 feet. The old Bradford field, as well as Vanago County, is credited with some very nice wells, as are parts of the New York field. The best find made in Pennsylvania was the 25-barrel well on the Osgood farm, in the Center-Middle district. In Allegany County, New York field the Empire Gas and Fuel Company struck a 12-barrel well, which is far above the average for that field.

West Virginia's best oil completion was a 40-barrel well struck by the Philadelphia Oil Company in its third attempt on the Smith farm, in West Union district, Doddridge County. A 20-barrel well is credited to the Continental Oil and Gas Company on the Burke farm, in Grant district, Ritchie County.

One of the most important finds in West Virginia for years was made by the Hope Natural Gas Company, in its well on the Gordon farm, in the Portland district of Preston County, near Terre Alta. This well was started for a deep hole, with expectations of making it the deepest test yet made in the state, but at a depth around 3200 feet, a pocket of gas was encountered that would not burn, and different from anything yet developed anywhere in the Eastern fields. The supposition is that it is helium gas and it is now being tested in the laboratory.

In Southeastern Ohio the Pure Oil Company made a 30-barrel strike in a wildcat well drilled on the Bell farm, in York township, Morgan County, that may mean an extension of a few miles in the producing areas of that county. Central Ohio failed to show any wells of importance, while the new southern addition to the old Trenton field of Northwestern Ohio came to the front with a flush well of 100 barrels found by the Eilerman Company on the Eilerman farm. This is the company that drilled the virgin well of the field close around the holiday season. The Findlay field of Hancock County also shows a 50-barrel well from the same formation.

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Pipe Line Work Progressing in Colorado As Field Work Is Pushed to Completion

Denver, Colo., July 14.—Pipe line work in the Rocky Mountain States occasioned by the extensive field play now under way in this section is progressing favorably. The 4-inch line being laid by the Prairie Oil and Gas Company from the Texas Production-Transcontinental's well in the Moffat pool in Moffat County to the company's tank farm site near the town of Craig is being pushed to completion. This line will extend about 14 miles and will be connected up with the Prairie's tanks now being erected near Craig to test out the discovery well. Two 35's and two 55's are being built.

Another pipe line project in this territory that is being rushed to completion is the Midwest Refining Company's line from the Hogback dome area in New Mexico to Farmington in that state. This will be extended 22 miles and will be of 3-inch pipe. The Midwest is also at work on an office structure and loading rack at Farmington. This will be a welded line, and will afford a much needed outlet for that area.

Still another improvement in transportation facilities will be the contemplated construction of a railroad from Casper southwest to the state line country between Colorado and Utah. The railroad, to be known as the Wyoming and Colorado Short Line, already has applied to the interstate commerce commission for permission to construct the road and to operate it. Such a road likely would have its route through Northwestern Colorado and would traverse the Moffat pool area in Moffat County. There is considerable agitation for the construction of the line.

Operations of the Union Oil Company in Colorado are to be centralized under the direction of a subsidiary company to be known as the Fort Collins Producing Corporation, which has been chartered under the laws of the state and capitalized at $10,000,000. The company will take over the Fort Collins holdings of Union as well as those in the Wellington area and the holdings in the Columbia Heights, Elk Springs and other districts. Headquarters and general offices of the new company will be located at Fort Collins. Operations of Union Oil in New Mexico will be continued under the direction of the parent organization. Directors of the Fort Collins Producing Corporation are J. S. Schalk, C. H. Sherman and D. R. Hawley, all of Fort Collins, and Roderick D. Burnham, John McPeak and W. W. Orcutt, all of Los Angeles, Calif., and W. L. Stewart of Pasadena, Calif.

Illinois Producers' No. 3 well near Artesia in Eddy County, New Mexico, in the northwest quarter of section 32-18s-28e, now is rated as a 150-barrel well, or possibly 200 barrels, although the first estimate probably is correct. This well picked up the sand at around 1947 feet and was shot with 120 quarts, after which it cleaned itself out. Earlier estimates on this well credited it with being a larger producer than it actually will make.

There is still considerable talk in New Mexico about sinking a deep test on the Hogback structure. Both the Navajo Indian Agency at Santa Fe and the interior department in Washington are known to be desirous of such a venture and Navajo Commissioner Hagermann is believed to be in favor of some sort of an inducement that could be made to a company to interest them in considering such a test. At one time the Midwest Refining Company was thought to be entertaining such a venture, but nothing official has been forthcoming from the company's offices here or in New Mexico.

Union of California Strong Financially

Los Angeles, Calif., July 12.—Showing an exceptionally strong financial position in all respects the second quarterly report of the Union Oil Company of California was issued July 8. The report, which is signed by W. L. Stewart, president, and R. D. Matthews, comptroller, shows a net profit for the six months ended June 30th of $6,200,000—an increase of $2,000,000 over the same period last year.

Gross profits from all operations, less general expenses, taxes, interest charges, employees' share of profits and the provident fund, are $11,400,000—as compared with $10,800,000 for the same period last year. Provision for depletion and depreciation is shown at $3,400,000, and labor and incidental cost of new drilling $1,800,000.

Production of crude oil by the company and its subsidiaries was approximately 7,700,000 barrels—an increase over the same period last year of 300,000 barrels. Thirty-five wells were brought in during the six months with a settled daily production of 10,000 barrels. Further development of the company's holdings in the Dominguez field has brought production in this field to 9000 barrels per day, with many wells nearing the oil sands. Mention is made in the report of the 800 barrel daily production from its Athens No. 1. In this field the Union owns 916 acres and has nine wells drilling.

In the State of Colorado the three structures owned by the company around Fort Collins are being tested, and exploratory work is now being conducted in other parts of the Columbine state.

Sales for the six months approximated $32,400,000—a decrease in value of $3,100,000. The decrease in sales is occasioned by reduction in exports of crude oil to the Atlantic seaboard. The report further states that the company recently sold 21,000,000 gallons of new Navy gasoline for export, deliveries and payment thereof to be made within the next 90 days.

Capital expenditures for the period approximate $5,250,000, consisting principally of drilling new wells and expenditures for the extension of marketing facilities. During the six months the company opened for business thirteen marketing stations and forty service stations.

Current assets aggregate $46,000,000—an increase of $3,750,000 over December 31, 1923. These assets consist of cash, United States bonds and treasury certificates, accounts and bills receivable, oil inventories (included at substantially the same prices as at December 31st last) and materials and supplies, together with unpaid stock subscriptions amounting to $589,420. Current assets are about 6 to 1 of current liabilities.

The current liabilities at June 30, 1924, approximate $7,600,000—an increase of $300,000 from December 31, 1923. During the six months there has been a decrease in mortgage debt in the hands of the public of $3,858,080 making a total reduction in indebtedness during the six months of approximately $3,558,080.

Capital stock subscriptions already paid on the offering of $4,500,000 made in January last amounted to $3,910,580, leaving a balance of $589,420 to be paid on the due dates of August 10 and November 10 next.

An outstanding feature of the report is the announcement that the board of directors with the written consent of more than two-thirds of the issued capital stock has taken the necessary steps to reduce the par value of the company's stock from $100 to $25 per share, and in due course there will be issued to every stockholder for each $100 par value share now owned by him four shares having a par value of $25. The effect of this will in all likelihood be to broaden the market for Union stock.

The quarterly dividend of $1.80 per share was declared on July 7th, payable on July 28th to stockholders of record at the close of business July 10, 1924. The stock transfer books of the company will not be closed.

Ramon F. Munoz, mining engineer and geologist of Monterey, Mexico, was in Houston during the past week.

Erwin Smith, petroleum engineer, who returned some time ago from Santo Domingo where he had charge of operations for an American company, is recuperating at his home in Houston following an appendicitis operation.

A. F. Tarver, oil well contractor and producer, of Shreveport, Louisiana, has recently undergone an operation for appendicitis, and his friends will be pleased to learn that he is now convalescing at his home, 1024 Boulevard.

Mexico City, Mex., July 10.—Properties in Mexico of the Mexican Eagle Oil Company have been occupied by Federal military forces. It is understood the occupation is not in connection with the strike of company employes.

New York, N. Y., July 12.—Application for a receiver for the Middle States Oil Corporation was denied in Federal court here this week by Judge John C. Knox.

Completions for Past Week in U. S. Fields

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Oklahoma	111	64	70	48	1	1	40	15	16,485	17,304
Kansas	7	19	5	13	..	1	2	5	823	2,475
Texas	115	77	65	51	6	3	44	23	16,060	28,252
Arkansas	28	57	24	45	1	..	3	12	5,800	7,315
Louisiana	12	15	2	7	6	1	4	7	3,700	2,156
Eastern States	170	166	98	98	43	31	29	37	1,345	1,844
California (Southern fields only)	22	63	22	62	..	1	..	..	8,515	25,395
Totals	465	461	286	324	57	38	122	99	52,728	84,741

Oklahoma

Company, Well, Location—	Initial Production Bbls.	Depth
Burbank Field—		
Blue Stem Oil Co's. No. 2, McLean, C E L SE SW 5-27-6	150	2729
Cosden O. & G. Co's. No. 4, SEc 17 17-26-6	130	2960
Cosden O. & G. Co's. No. 6, Tract 41, C W L SW NW SE 14-27-5	240	3041
Mid-Kansas O. & G. Co's. No. 4, NEc NE NW 26-27-5	100	3020
Prairie O. & G. Co's. No. 14, C NE SW SW 13-27-5	50	3002
Phillips Petroleum Co's. No. 7, SEc NW 20-27-6	175	2956
Phillips Petroleum Co's. No. 3, C W L SW SW NW 20-27-6	150	2960
Skelley Oil Company's No. 1, NEc NE SW 26-27-5	40	2967
Carter County—		
Amerada Petroleum Corp's. No. 2, Butler, C NW SW SW	*	2530
Wert Franklin's, No. 1-a Underwood, C SW NE SW 5-3s-2w	80	2952
E. P. Harwell's, No. 1, Lyle, C SW SW SW 14-2s-3w	*	2398
Hilltop Oil Trust Co. et al's, No. 12, Bennett, C W L SE NE NW 31-2s-2w	90	2626
Humble O. & R. Co's, No. 1, Dexter, C NE NW SE 28-1s-3w	400	3335
Magnolia Petroleum Co's., No. 3, S. Lahman, C NW NW NW 23-2s-3w	*	3752
Simpson-Fell's No. 2, Walker, C SE SW NW 10-5s-2w	90	2270
Skelley Oil Co's, No. 3, Davis, C SW SW NW 23-2s-3w	25	2345
Twin States Oil Co's. No. 5, Jefferson, C NE SW NW 25-2s-3w	100	2593
Westheimer's, No. 17, Fee, C NW NE SE 16-4s-2w	100	2574
Wild Wood Oil Co's, No. 1, Carpenter, C SE SE SE 15-2s-3w	*	2810
Cotton County—		
Knight & Hines', No. 1, Kingleysmith, SEc 31-4s-9w	*	2210
Creek County—		
Burke-Greis Oil Co's, No. 2, Barnett, SEc NE 31-14-10	375	2427
Carter Oil Co's, No. 2, Baker, SEc SW SE 21-17-19	50	2535
Hivick et al's, No. 1, Miller, C S L NW SW NE 4-19-10	20	1995
Holmes & Jarvis', No. 2, West, NWc SE NW 17-18-9	175	3233
O. R. Howards', No. 4, McNac, C NE NW NE 16-16-9	1250	3023
Independent Oil Co's, No. 3, Scott, NEc SE 31-14-10	350	3429
Ireland et al's, No. 1, Cooper, C S L SW NW 17-17-11	*	2885
Prairie Oil & Gas Co's, No. 3, Roberts, NWc SW NW 31-17-9	56	2704
Selby Oil & Gas Co's, No. 1, Barnett, SEc NW 31-19-9	60	3117
T. & P. Coal & Oil Co's, No. 2, C SW NE SE 21-17-9	32	2548
C. G. Tibbens', No. 9, Johnson, SWc SW SE 26-14-8	10	2515
Weiser Oil Co's, No. 10 Pickett, C SW NW 10-16-11	10	1698
Wilson Dig. & Dev. Co's, No. 1, Colbert, NEc SE NW 29-15-9	200	3090
Garfield County—		
Sinclair O. & G. Co's, No. 8, Shafer, C S L SW SE 18-22-3w	25	2220
No. 12, Crews, C W L SW SE 19-22-3w	20	1205
Crews et al's, No. 20, Crews, NWc NE SE 19-22-3w	55	2133
Jefferson County—		
Haynes Oil Co's, No. 1, Johnson, C W L SE SE SE	*	610
Kay County—		
Marland Refg. Co's, No. 2, C S L SE NW NE 19-25-2e	25	2515
Lincoln County—		
Flynn & Morgan, No. 1, Baker, SEc 2-14-5	*	3474
Amerada & Wrightman's, No. 1, Strip, C W½ SE SW 1-14-6	1160	4183
Roxana Petroleum Corp, No. 2, Zoller, C S L SE SW 1-14-6	1514	4162
No. 2, Zoller, C W L NE SE SW 1-14-6	638	4158
No. 5, Zoller, C E L NE SW SW 1-14-6	861	4165
Amerada Petroleum Corp, No. 5, Strip, SEc NW 12-14-6	1320	4151
Muskogee County—		
E. A. Hutchenson's, No. 3, Lee, NEc SW SW 35-15-16	75	1809
Hillside O. & G. Co's, No. 3, McDaniel, C W L NE NW 4-15-15	30	1442
Okmulgee County—		
Independent O. & G. Co's, No. 8, Coleman, C S½ NW NW 27-16-12	225	2549
Black Petroleum Co's, No. 1, SEc NE 25-12-13	*	2992
W. S. Zinc's, No. 1, Bruner, C SE 10-11-13	¶	1827
Paraffine Oil Co's, No. 5, Ross, C S L SW NE 34-16-11	35	1946
Prairie O. & G. Co's, No. 1, Lefert, SEc 17-13-11	720	2577
L. Neal's, No. 1, Berryhill, NEc NW SE 17-14-13	*	2592
Max Moore's, No. 1, Leader, SWc SW NE 3-14-13	*	2775
Enfisco Oil Co's, No. 2, Grayson, C W L SE NW 3-15-11	5	1950
Okfuskee County—		
Bingman & Smith's, No. 12, Smith, SWc SW NW 35-11-11	30	2131
Independent's, No. 1, Jacobs, NWc SE SW 33-12-11	150	2936
Osage County—(Outside Burbank field)		
Owen Osage Oil Co's, No. 295, NWc SW SW 4-27-10	*	1950
Sinclair O. & G. Co's, No. 1, C SW NE SE 3-25-8	25	2915
Edith Oil Co's, No. 6, C E L NE SW 27-29-11	35	944
Beacon Oil Co's, No. 1, NWc SW 19-29-12	*	2140
No. 1, NWc SE 27-29-11	*	2060
Mid-Kansas O. & R. Co's, No. 1, SWc 21-25-8	1374	2684
Lewis Oil Co's, No. 1, C E L NE NW 29-25-8	75	2281
Devonian Oil Co's, No. 1, C S L SE NW 31-25-9	*	2665
No. 6, C E L SW 34-25-11	100	1755
Forty-Five Oil Co's, No. 37, C NW NE 5-25-12	50	1642
Riverland Oil Co's, No. 5, C E L NE NW 19-22-11	*	2252
A. E. Carlton's No. 1-a, C W L NW NW NW 28-23-8	*	3032
Mutual Oil Co', No. 19 NWc SE 32-24-8	5	740
W. E. Crum et al's, No. 1, SWc SE SW 7-29-6	*	2867
Evidence Oil Co's, No. 4, C W L NW SE 27-28-10	*	1510
Rick et al's, No. 2, Brewer, SWc SE SW 23-28-7	12	2461
Rex Pyramid's, No. 2, C W L SW SW 34-24-10	*	1209
Texas' No. 2, NEc NW SW 22-24-9	100	2170
Zock-Barnes's, No. 1, SWc NE 4-25-8	*	2927
W. H. Foster's, No. 3, SWc SE 33-25-12	*	1826
Pawnee County—		
Steinberger & Smith's, No. 1, Brown C S L NE NW 25-20-7	*	2852
Tidal Oil Co's, No. 5, C S L NW NW SE 24-20-8	110	2730
Payne County—		
Shaffer O. & R. Co's, No. 10, Laughlin, NEc 2-18-5	198	3501
Stephens County—		
Magnolia Petroleum Corp's, No. 2, B. Maxey, SWc SE NE 30-1n-8w	*	3235
No. 1, Marx, C E L NE NE SW 13-2s-8w	40	1907
Tulsa County—		
Shaffer O. & R. Co's, No. 7-a Partridge, NEc SW NW 4-19-12	150	2050
Sack Fox Oil Co's, No. 4, Warner, C W L NW NW SW 33-18-14	10	1537
Shaffer O. & R. Co's, No. 5-a, Partridge, C W L NW NW 4-19-12	400	2060
J. F. Seeney et al's, No. 3, Russell C S L SW SW 22-19-11	*	2250
Echo Oil Co's, No. 5-a Grayson, NEc SE NE 5-19-12	200	2010
Thompson & Black's, No. 3, Bartholf, SWc 5-16-13	10	1138
No. 1-a, Partridge, NWc SW SW 5-19-12	1850	1985
Nelson O. & G. Co's, No. 2, C W L SW NE 15-19-10	*	2401
Superior Oil Co's, No. 2-a, Cowles, NEc SE SE 6-16-13	*	2240
Wagoner County—		
Atkins et al's, No. 4, Davis, NWc NE SW 15-17-16	*	850
T. H. McBroyer, No. 1, Franklin, NEc NW SE 14-16-4	*	2285
J. A. Swindler, No. 2, Atkins, C W L NW NW NE 13-17-16	*	810
Dowd et al's, No. 2, Atkins, C NW NE 14-17-16	40	768
Gilliam et al's, No. 2, Davis, NEc NW SW 14-17-16	*	832
Jackson & Scully's, No. 2, Allen, NEc SE 15-17-16	5	820
Shaw et al's, No. 1-a, Childers, SEc		

Company, Well, Location	Initial Production Bbls.	Depth
NE SW 23-17-16	*	785
Young et al's, No. 7, Birney, SWc SE SW 11-17-16	20	789
Tillman et al's, No. 1, Brown, SWc SE NW 12-17-15	*	1130
Whaleback Oil Co's, No. 1, McIntosh, C SW NW 2-17-16	*	730
McCoy et al's, No. 1, Mitchell, SEc NE 1-16-16	*	1633
Fuhrman Petroleum Co's, No. 1, Childers, NWc SE 28-17-16	*	1674
Carmichael et al's, No. 1-a, J. Vann, C NE SW NE 1-17-15	*	1168
J. Hare et al's, No. 1, Austin, 1-17-16, NEc SW SW 1-17-16	20	732
Martin et al's, No. 5, McIntosh, SWc SE SW 2-17-16	*	820
Deaner & King's, No. 1, Grayson, NWc NW SE 5-17-16	*	1250
Chas. Ramstead et al's, No. 1-a, Grayson, NWc NE 6-17-16	20	1139
H. H. Orr's, No. 1, Haynie, SEc NW SE 7-17-16	*	750
B. G. Goble's, No. 1, NWc NE NW 14-17-16	20	797
Sewell & Knox's, No. 3, Berryhill, NWc SW NE 15-17-16	45	751
Whaleback Oil Co's, No. 6, Berryhill, SWc NW NE 15-17-16	20	742
ELECTRA		
Apple & Brandeberry Mrs. G. Jennings 9-A	*	1890
Carter & Yates Burnett et al 12	*	1900
Humble Oil & Ref. Co. Waggoner Bros. 1-C	*	2060
Burnett et al 1	*	2000
E. L. Keltz et al S. P. Gibson 1	*	2005
Sam Kruger et al W. T. Waggoner 9	*	1990
John O'Neil Burnett et al 3	*	1965
W. J. Shelton Fee 3	*	1070
Texhoma Oil & Ref. Co. Burnett et al 4-B	200	1580
Burnett et al 5-B	150	1582
The Texas Co. W. T. Waggoner 295	25	1762
United Centeral Oil Corp. S. H. McCarty 6	210	1690
K-M-A AND IOWA PARK		
Electra Gulf Oil Co. Mrs. Murray 4	410	1663
Mrs. Murray 5	260	1767
Hill & Roberts W. W. Overby 7	40	1500
Humble Oil & Ref. Co. Kemp & Allen 2	35	1759
Cliff Moore et al Allen & Kemp 2	80	1630
Underwood Drilling Co. & Church Newton Maer 4	40	787
YOUNG COUNTY		
G. D. Hinson et al W. W. McMillan 1	*	3606
McGuire et al Tom Carter 1	*	2885
Seaboard Oil & Gas Co. Simmons-Huges 5	*	2810
L. C. Heydrick-Bonds et al Graham 1	*	3003
EASTLAND-RANGER		
Donley Drilling Co. J. R. Stubblefield 1	¶3	3220
Knox-Lewis Oil Co. Simmons 1	*	1220
Lowe-Delaney & Carter's Harris 4	25	2535
Panhandle Refining Co. L. A. Hightower 20	*	1215
E. H. Webb 7	*	1300
Pardue & Sons et al Hague 1	*	1500
Republic Production Co. M. M. Sneed 2	10	1215
STEPHENS COUNTY		
Brown & Co. L. McClenney 1	*	4165
Marchbanks & Moore Hudspeth 1	¶3-40	3250
Walker-Caldwell Production Co. W. & C. 10.	30	3255
Welch et al Sandidge 1	*	2210
ARCHER COUNTY		
Andrade et al Pease Estate 1	*	1500
Bridwell & Heydrick L. F. Wilson 7-F	300	1589
Cato Et al Mask-Veasey 1	*	1405
Creath et al H. Hawkins 1	*	1730
Dillday et al W. P. Ferguson 1	*	3538
Duke & McKee Herron 1	*	1105
Hill et al Wilson 1	*	1561
Hobbs et al Goldsmith-Richardson 3	*	1369
Humble Oil & Ref. Co. B. M. Orton 1	20	1591
Kentucky Oil Corp. L. F. Wilson 1-A (Blk. 26)	*	1650
Kinney et al Mrs. H. Porter 1	*	1810
Lowery & Cavin Harbinson 1	55	1349
Miller et al Wilson 1	*	1561
Murchison-Fain et al J. H. White 4-B	80	1605
Murchison & Robertson J. H. White 1	80	1404
Magnolia Petroleum Co. Llewellyn Heirs 2	50	1402
Scott & Gose L. H. Farmer 1	*	1540
Tucker & Langford Mrs. J. H. Carter 3	25	1578
Tucker & Langford Mrs. J. H. Carter 4	20	1384
Waite Phillips Chancellor 1	*	1805
Winan & Smith H. A. Meurer 1	*	1655
Woodburn Oil Corp. (Simms) L. F. Wilson 9-A	40	1399
BURKBURNETT		
Couch et al's Donehoo 5	35	1310
Harvey Oil Co. L. B. Ruyle 20	*	1690
T. F. Hunter et al G. W. Musgrave 1	*	1650
McDabb Oil Co. L. F. Potter 3	*	2005
The Petroleum Corp (Constantine) J. N. Roberts 1	*	2235
LULING		
The United North & South Oil Co.'s A. J. Baker 19	1000	....
A. J. Baker 9	400	....
A. J. Baker 10	400	....
A. J. Baker 15	400	....
McKean 7	800	....
Trammel 1	700	....

Eclipse Deepwell Pulling Machine

For 3000 Feet Wells and Deeper

To the Producing Fraternity:

Seeing that the market for crude oil is extremely low, it is up to every producer to produce a barrel of oil in the most economical way, so why use a standard rig, which you can only use on one well, and will cost from $1000.00 to $1200.00 each, not mentioning the cost of power for operating the derricks.

Our Deepwell Pulling Machine sells for $475.00 F. O. B. Independence, and will handle from one to twenty wells, depending on the condition of wells.

There are various makes of tractors, of various prices running from $600.00 to $1800.00 each. Any of them are good, but some better than others. Any of these will operate our machine.

For instance, our machine and the Fordson Tractor will cost $1,555.00. Don't you think this is a fair price for the service of so many wells?

Figure this: 20 standard rigs $20,000.00; one Deepwell Machine and Fordson Tractor $1555.00. A word to the wise is sufficient.

Specifications

Mast 8x10x36 ft., Douglass Fir A-Style, Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2¼ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum: 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

For sale by all Supply Companies

Manufactured by

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

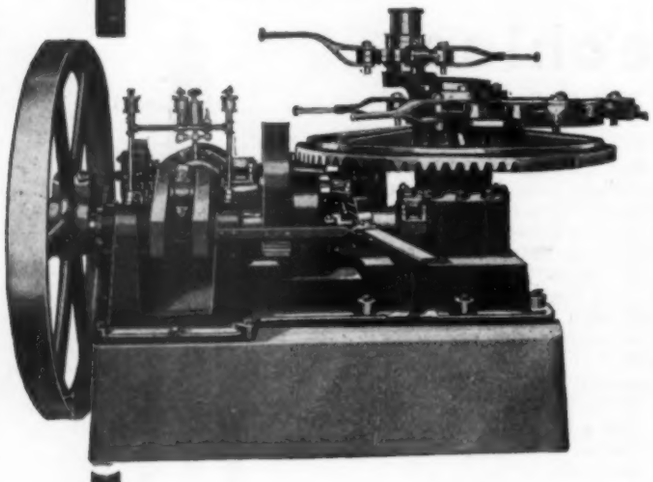
Company, Well, Location—	Initial Production Bbls.	Depth
Monroe Gas Field, Morehouse Parish—		
La-Del et al's Fee 21, 28-20-5e	¶15	2270
Southern Carbon Co.'s Spyker 12, 8-20-5e	¶10	2250
Monroe Gas Field, Ouachita Parish—		
Atlas Oil Co.'s West Va. 2, 3-18-5e	*	4500
Palmer Corp.'s Lieber 1, 4-19-5e	¶10	2225
Southern Carbon Co.'s Fee 32, 15-19-5e	¶2	2284
Standard Carbon Co.'s Vinson 2, 32-19-5e	¶5	2243
Total, 6 wells	¶42	

Arkansas

Company, Well and Location	Initial Production Bbls.	Depth
Stephens Field, Columbia County—		
Dobie et al's Sanders 3, 23-15-20	*	2155
Stephens Field, Ouachita County—		
Gulf Ref. Co.'s Hall 1, 31-15-19	30	2170
Total, 2 wells	30	

Company, Well and Location	Initial Production Bbls.	Depth
Smackover Field, Ouachita County—		
Anderson et al's Anderson 3, 26-15-17	50	2277
Atlantic Oil Producing Co.'s Wells A-4, 25-15-17	55	2290
Gray et al's Solmson 2, 32-15-16	30	2247
Gilliland Oil Co.'s Wells 3, 25-15-17	30	2282
Gulf Ref. Co.'s Stringfellow 5, 29-15-16	75	2306
Hicks et al's Morgan 1, 2-18-16	*	2125
Hunt et al's Anderson B-5, 23-15-17	90	2280
Lanier et al's Meyer 2, 29-15-16	30	2292
Magnolia Petroleum Co.'s Neeley 4, 1-16-17	30	2265
R. B. Nelson et al's Anderson 3, 26-15-17	50	2333
Riggs Drilling Co.'s Solmson Trust 2, 29-15-16	50	2256
A. M. & B. Sutton's McElroy 3, 29-15-16	90	2309
A. F. Tarver et al's Fincher 4, 29-15-16	35	2280
Whittiken et al's Anderson 3, 23-15-17	75	2303
Hodges 1, 26-15-17	50	2345
Smackover Field, Union County—		
Broderick & Calvert's Harrell 1, 8-16-15	¶40	2360
Caldwell et al's Burton 2, 25-16-16	1000	2110
Humble Oil & Ref. Co.'s Burton 1, 25-16-16	2000	2076
Pure Oil Co.'s Davis 2, 17-16-15	65	2060
Schuller et al's Henderson 1, 19-16-15	500	2095
Standard Oil Co.'s M. Alphin 8, 3-16-15	40	1984
The Texas Co.'s Cook 6, 21-16-15	75	2076
Hedgewood 3, 24-16-16	250	2120
Hedgewood 4, 24-16-16	1000	2112
Woodley Pet. Co.'s Alphin 3, 24-16-16	100	2043
Total, 25 wells	¶40-5770	
El Dorado District, Union County—		
Leonard et al's Pendleton 1, 21-18-15	*	2122

Patent applied for



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SOUTHERN CALIFORNIA

Torrance—		
C. C. M. Oil Co.'s Kettler 18	75	3882
Kettler 20	135	3860
Torrance 47	590	3725
Torrance 49	535	3730
Torrance 57	720	3725
Mohawk Oil Co.'s Crowell 1	135	3877
Beaver State Oil Co.'s No. 3	80	3778
Petroleum Midway's Lord 1	50	3800
Gilman 1	300	3680
Standard's Joughin 2	400	3840
Sentinel-Joughin 4	940	3845
Joughin 1	500	3835
E. J. Miley's Torrance 7	925	3835
Associated's Cunningham 3	270	3654
Pan American's Hub 2	360	3880
Shell Co.'s Keystone 1	100	3842
Long Beach—		
San Martinez Oil Co.'s Booth 3 (wo)	260	4473
Herwick's No. 7 (wo)	95	4505
W. R. Ramsey's McNaughton 1 (wo)	225	4541
Petroleum Midway's Bauman 3	280	4560
Dominguez—		
Union's Hellman 4	1500	4172
Huntington Beach—		
Shell Co.'s Ashton 6, (wo)	40	4350

Eastern States

Bradford Field—		
South Penn Oil Co.'s Bingham 410 tract 1	7	....
Bingham 405 tract 1	4	....
Bingham 452 tract 47	2	....
Bingham 533 tract 60	7	....
Bingham 570 tract 93	10	....
Bingham 439 tract 66	10	....
Weston Jr., 66	5	....
Weston Jr., 75	5	....
Young 28	5	....
McSweeney & Co. Lawton 82	3	....
Lawton 83	3	....
Lawton 84	4	....
Andrus & MacDowell Bingham 1	12	....
Bingham 3	4	....
Knabb & Hartzel Griffith 1	7	....
Hurley, Wright & Co. South Penn 1	8	....
Forest Oil Co. Bingham 37	5	....
L. F. Kinley & Co. Mantz 1	5	....
Bradley & Moore, Quintruple 1	4	....
McCool & Co. Wright 1	7	....
George W. Bovaird Bingham 391 tract 68	5	....
W. J. Oliver Franchot 15	7	....
Venango County—		
Franklin Trust Co. Davison 11	7	....
C. W. Seaton Seaton 23	9	....

Books On Petroleum

The knowledge gained through years of work and study by some of the most capable men in the oil industry is set down in the books listed herein. Order some of these books and profit by the experience of others.

Petroleum Production Methods, by John R. Suman. Third Edition. Completely revised and brought down to date. Postpaid $6.

Deep Well Drilling, by W. H. Jeffery. A comprehensive handbook covering modern practices of drilling by cable tool and rotary methods. Postpaid $5.

Handbook of the Petroleum Industry, by David T. Day. One of the most comprehensive works on petroleum ever published. 2 vols. Postpaid $15.

Field Methods in Petroleum Geology, by Cox, Dake & Muilenburg. Describes methods of using instruments employed by petroleum geologists. Postpaid $4.

Oil Valuation & Taxation, by Jas. I Tucker. A study and non-technical analysis of the Federal Income Tax law applied to the oil business. Postpaid $3.

The Business of Oil Production, by Johnson & Huntley. Describes the principles of company organization as regards scope, personnel and methods. $3.50.

Popular Oil Geology, by Victor Zeigler. Presents fundamental principles of oil geology for the man without technical knowledge of the subject. $3.00.

Prospecting for Oil and Gas, by L. S. Panyity. Describes the various tools and methods of the present day oil and gas prospector. Postpaid $3.25.

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American Petroleum Industry, by Bacon & Hamor. A comprehensive and authoritative treatment of the American Petroleum Industry. Postpaid $12.

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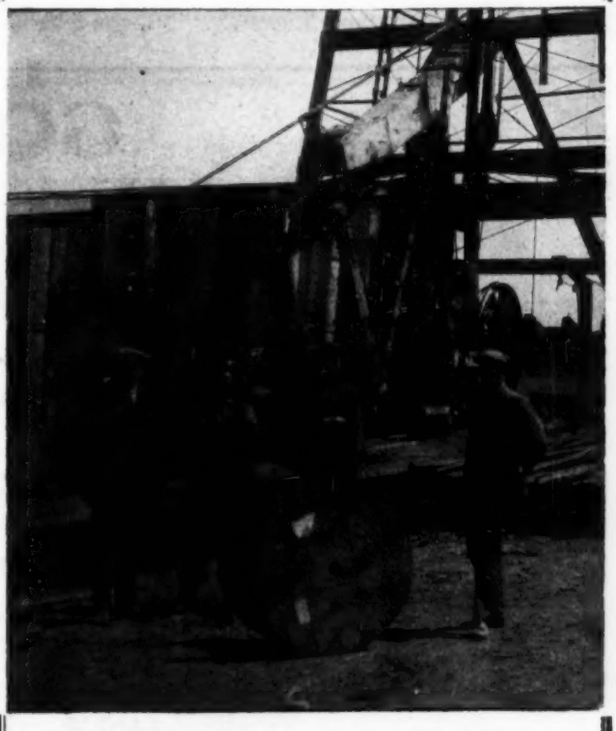

Left to right: A. R. O'Brian, Field Supt., Phillips-Skelly Co., in the Burbank Field. C. J. Rutherford, driller; Roy Moore, Toolpusher and M. J. Lowe, Jr., Mgr., Williamsport Wire Rope Co.

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Graham	Ardmore	Okmulgee	El Dorado	Ranger
Mildred	Holdenville	Bartlesville	Shreveport	Electra
Shidler	Bristow	Smackover	Casper	Wichita Falls

WILLIAMSPORT

Service In Every Important Field

Company, Well, Location	Initial Production Bbls.	Depth
E. Siederman Hasson 45	5	....
Midland Oil Corp. Stevenson 29	7	....
E. A. Burch & Co. Porter 81	¶1	....
C. H. Brown, Brown 10	¶1	....
Crescent Oil Co. Titusville Trust Co. 8	*	....
R. G. Hancox & Co. Scott 1	*	....
Butler County—		
Affolter & Co. Knox 1	7	....
Chambers Oil Co. Wick 1	7	....
Bauer, Burns & Co. Bauer 5	5	....
American Natural Gas Co. McGinley Heirs 1	¶2	....
Ritzert & Bros. Coulter 1	¶2	....
Baldauf & Co. Baldauf 4	¶2	....
Central-Middle Field—		
Reinbold & Co. Osgood 4	25	....
Titusville Trust Co. Huffman 25	7	....
A. & W. Tompsett T. & W. O. 62	7	....
Rocky Grove Oil Co. Bingham 11	3	....
H. A. Siginis Lot 51, 1	¶1	....
Clarion County—		
Jordan & Co. McIlwain 2	4	....
Alum Rock Gas Co. Kapp-Graham 7	3	....
Kapp 8	¶1½	....
H. L. Conver & Co. Price 2	3	....
I. D. Kable & Co. Allaman 2	*	....
Greene County—		
Manufacturers Light & Heat Co. H. H. Spragg 1	¶2	....
1	*	....
Mercer County—		
Erie O. & G. Co. Oaks 2	2	....
Mars Oil Co. Wagner 1	*	....
Warren County—		
Unknown Parties Andy Holman 1	17	....
Forest County—		
Deerfield G. & G. Co. Ollie Stover 1	15	1550
Allegheny County—		
Scott O. & G. Co. J. Holman 1	5	....

NEW YORK

Company, Well, Location—	Initial Production Bbls.	Depth
Allegany County—		
Empire Gas & Fuel Co. Empire 1	3	....
Emipre 2	12	....
H. B. Rice & Co. Rice 1	5	....
R. E. Lester & Co. Lester 1	5	....
E. G. Williams & Co. Williams 1	5	....
Forest Oil Co. Forest 1	2	....
Forest 2	5	....
Mapes & Co. Sisson 1	*	....
M. J. Crowley & Co. Crowley 1	*	....
Conklin & Reeland Reeland 1	*	....

WEST VIRGINIA

Company, Well, Location—	Initial Production Bbls.	Depth
Ritchie County—		
Continental O. & G. Co. Mike Burke 5	20	....
Carter Oil Co. D. L. Baker 2	¶2	....
Imperial O. & G. Products Co. E. Livingstone 1	¶2	....
Robert Elder & Co. Gil Hayden 1	¶2	....
G. H. Franklin & Co. H. & F. Williams 1	*	....
Pleasants County—		
Neely & Co. Smith Heirs 4	*	....
Hope Natural Gas Co. Powell 1	3	....
Ellenor O. & G. Co. Harper 1	¶2	....
Lincoln County—		
Huntington G. & Dev. Co. Adkins 2	¶2	....
Laurel Dev. Co. W. W. Carroll 1	¶2	....
Phoenix O. & G. Co. J. L. Spurlock 1	¶2	....
Calhoun County—		
Hope Natural Gas Co. J. F. Schafer 1	*	....
Southern Oil Co. S. M. Maze 1	2	....
Wetzel County—		
South Penn Oil Co. Smith Edgell 8	3	....
Elms Gas Co. C. C. Rush 1	¶3	....
Gilmer County—		
Hope Natural Gas Co. M. J. Boggs 1	¶3	....
McCall Oil Co. Barnett Heirs 1	¶3	....
Doddridge County—		
Philadelphia Oil Co. T. J. Smith 3	40	....
Kanawha County—		
United Fuel Gas Co. Barrett 1	¶1	....
Lewis County—		
Hope Natural Gas Co. G. L. Snyder 1	¶3	....
Cabell County—		
Aetna O. & G. Co. L. Rucker 2	¶2½	....
Boone County—		
Owens Bottle Machine Co. Boon-Kanawha Land 6	*	....
Monongalia County—		
Hope Natural Gas Co. Barrickman 1	¶4	....
Putnam County—		
Staunton & Rashman Arbaugh 2	¶3	....
Roane County—		
G. L. Cabot Rerris Coe 1	*	....
Braxton County—		
Miller & Simmons R. Q. Dennison 1	*	....

KENTUCKY

Company, Well, Location—	Initial Production Bbls.	Depth
Allen County—		
Russell Oil Corp. Burton Bros. 14	12	476
J. R. English A. Hobdy 10	10	372
Peerson & Neely Harris 1	3	....
Forrest & Co. Lyle 6	*	....
McKinney & Co. W. C. Wilson 1	*	407
C. Smith W. Smith 11	*	512
Wayne County—		
Beaver Pet. Co. L. N. Morrow 7	5	....
R. W. Wright J. H. Duncan 15	1	....
C. E. Daugherty & Co. J. E. Rogers 5	*	....
Marsh & Co. W. Sandusky 1	*	....
Clark O. & G. Co. A. W. Campbell 6	*	....
Warren County—		
Cunningham & Co. Bryant 2	35	1157
T. A. Sheridan & Co. G. Davenport 1	15	784
Petroleum Exploration Co. Mercer 15	14	963
Makeever Bros. Young 9	*	641
Owensboro District—		
Dearborn Oil Co. Taylor 16-acres 1	14	....
H. F. Gibson H. Brown 1	12	746
Kentucky Oil Co. V. G. Payne 2	7	....

GOTT WATER CAN

A cool drink at all times.
A shop made galvanized can.
Made in 1½, 3, 5, 10 gallon sizes.
Special sized cans and coolers made to order.

Can be obtained from all Supply Stores

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is a renewable liner which can be renewed in a very few minutes when dulled, by taking out two cap screws in each slip. This eliminates the most troublesome feature of ordinary slips, that of re-sharpening, with its resultant loss of time and inconvenience.

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P. O. Box 1110 Arcade Station, Phone Humboldt 4644
Branches: Brea, Long Beach, Torrance, P. O. Box 694, Houston, Texas

Company, Well and Location	Initial Production Bbls.	Depth
Pellville Oil Co. Oscar Long 1	*	....
Barren County—		
Houchins Leasehold Co. Viegler 5	18	567
Elem O. & G. Co. Warder 10	7	525
Humes & O'Neil Jim Lewis 1	4	520
Kopel & Co. Neeley 1	2	480
Lawrence-Johnson Counties—		
Union G. & O. Co. J. C. Gillam No. 1, 7	10	818
H. Bailey 4	5	843
L. D. & P. P. Holbrook 1	¶¼	798
L. H. Skaggs 7	5	836
Johnson-Magoffin Counties—		
Atlantic O. Prod. Co. Frank Conley 13	10	....
R. G. Gillespie Darius Conley No. 2 Farm 1	5	....
Cumberland County—		
Vedder Oil Co. Tompkins 2	100	325
W. S. Raydure W. Anderson 1	40	410
Wolfe County—		
Federal Oil Corp. E. B. Roberts 2	25	....

SOUTHEASTERN OHIO

Washington County—		
O. O. Kinsey Coal Lands 3	2	....
Mason B. Starring & Co. A. McFarland 2	¶1¼	....
Fairfield Gas Co. Hulda Clutter 1	*	....
Ross Bros. Eva Burk 6	*	....
Noble County—		
Cain-Devoll Interests L. H. Devoll 7	2	....
Felix Gerst & Co. John Fogle 1	*	....
Casper Schott & Co. Schott 2	¶¼	....
Morgan County—		
Pure Oil Co. Harman Bell 1	30	....
Carroll County—		
Miller-Lees O. & G. Co. T. K. Miskel 10	10	....
Muskingum County—		
J. T. Dillon Henry Decker 8	2	....
Harrison County—		
Grant Sissell & Co. Duswald Heirs 3	¶1½	....

CENTRAL OHIO

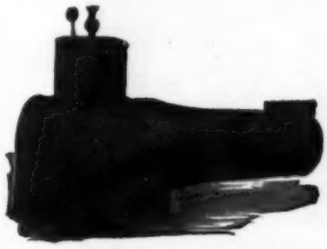
Wayne County—		
Logan Gas Co. Edward Bets 1	¶2¼	....
J. W. Horn 1	¶¼	....
Daugherty Bros. Slemons 1	¶1	....
Slemons 2	¶1	....
Creston Gas Co. J. M. Wiles 2	¶1	....
Knox County—		
Arkansas Fuel Co. L. V. Vaughn 4	5	....
L. H. Vaughn 5	10	....
East Ohio Gas Co. Ray Koppert 3	¶1½	....
Holmes County—		
East Ohio Gas Co. W. H. Uhl 2	20	....
Jas. Allison 1	¶1½	....
Bert Harder & Co. Reeder 3	¶½	....
Central Ohio Gas Co. C. H. Smith 1	*	....
Ashland County—		
Logan Gas Co. G. Carnagy 1	*	....
Fred Fechter 2	¶1	....
John Monteith 1	*	....
Athens County—		
Logan Gas Co. Arthur Cole 4	¶¼	....
Harry W. Leeper & Co. O. F. & J. Davis 1	¶¼	....
Richland County—		
Greenwich O. & G. Co. H. R. Noble 6	¶2½	....
Bricker Bros. Black 1	¶2	....
Medina County—		
Ohio Fuel Gas Co. W. M. Ruder 1	¶1	....
Logan Gas Co. John Morelock 1	*	....
Perry County—		
Chartiers Oil Co. F. Lambert 1	5	....
Hocking County—		
Logan Gas Co. A. L. Unger 4	¶¼	....

NORTHWESTERN OHIO

Shelby County—		
Eilerman Oil Co. Eilerman 2	100	....
Harmon, Miller & Co. C. Broerman 3	20	....
Schlagel & Johnson Danzig 1	25	....
Ohio Oil Co. Peter Coffena 1	18	....
Lee A. Watson Barnhorst 1	¶2½	....
Hancock County—		
Cole Bros. & Co. C. S. Champer 2	50	1577
Allen County—		
Hadley & Kelley D. N. Gengler 2	25	1249
Ottawa County—		
Fox & Co. A. J. Weis lot 1	15	1309
Wood County—		
Allen Coen & Co. Roe Heirs 5	10	1342
Gibson County—		
Murphy Oil Co. W. A. McRoberts 1	*	1771

ILLINOIS

Wabash County—		
Arkansas Fuel Oil Co. Della Wright 7	120	1586
Young & Co. A. Biehl 1	25	1536
Clark County—		
Trenton Rock Oil & Gas Co. John Carper 13	75	1406
Monroe County—		
Ohio Oil Co. Henry Kolmer 8	35	467
Lawrence County—		
Densmore Oil Co. W. & F. Fitch 1	5	889



Bulletin B-7

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Magnolia Petroleum Co.'s Pipe Line Runs for June Decline From May; Shipments Up Again

Dallas, Texas, July 14.—Magnolia Petroleum Company's daily crude runs from Oklahoma, Kansas, Arkansas, Louisiana and Texas fell off during the month of June to 68,088 barrels, as compared with a daily average of 70,369 barrels during May and 71,145 barrels daily in April. These figures include Magnolia's own production, which averages close to 35,000 barrels daily in the five states, and crude purchased from other producers. Magnolia's slump in crude runs during June was distributed over seven fields in Oklahoma and Kansas and eight fields in Texas along with slight declines in Louisiana and Arkansas, but the reduced runs from some of these fields were partially offset by increased runs from other major fields.

The Luling field in Southwest Texas and the Burbank field in Oklahoma contributed the two most outstanding declines in runs sustained by Magnolia during June, as runs from the Luling field amounted to only 144,221 barrels in June as compared with 315,595 barrels in May, or a slump of 171,374 barrels. This drop is largely due to Magnolia having most of its 43 55,000-barrel tanks in the field filled, and reduced the price of Luling crude to 75 cents. The producers refused to sell at this reduced price, and Magnolia resumed is $1 quotation on July 2.

Magnolia's Burbank runs during April amounted to 194,664, and 70,510 barrels in May, and during June not one barrel was run from this field, owing to its crude connections having been lost when reduced crude prices were put into effect on May 10.

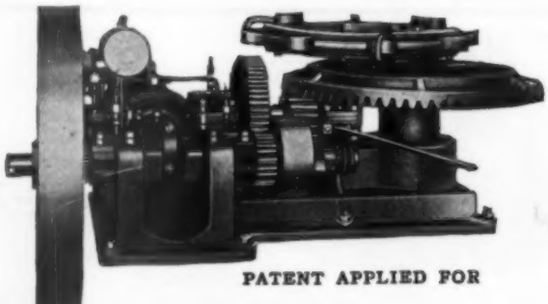
In the Corsicana-Powell field Magnolia increased its runs from 177,993 barrels in May to 316,097 barrels during June, or à gain of 238,104 barrels over the month. This increase was made in the face of a 50-cent difference in the posted price paid by Magnolia and other purchasers in the field over most of the month.

After experiencing a big slump in water shipments of crude and refined oils in May, Magnolia partially overcame this decline in June, but failed to equal the high mark established in April. These shipments represent export sales and movement of products from the Beaumont refinery to points on the East Coast. Tanker shipments for the past three months follow:

	Fuel oil (Gals)	Refined oils (Gals)	Crude (Bbls)
April	11,078,966	49,039,481	398,361
May	1,950,173	29,757,196	248,006
June	6,043,453	32,489,316	254,994

Magnolia Petroleum Company's crude runs by fields for May and June follow:

	May totals in Bbls.	June totals in Bbls.
Cushing	245,528	253,326
Healdton	225,125	228,257
Hewitt	200,317	157,612
Wewoka	101,778	141,099
Yale	63,655	80,154
Duncan	80,981	74,085
Augusta	36,872	36,370
Cement	31,525	28,716
Walers-Beaver Creek	12,345	10,845
Bristow	46,632	7,381
Burbank	70,510	.....
Totals for Okla. and Kansas	1,115,273	1,017,848
Corsicana-Powell	177,993	316,097
Electra and Burkburnett	248,051	261,974
Luling	315,595	144,221
Mexia	66,282	64,477
Desdemona-Gorman	56,665	49,338
Mirando	35,823	33,738
Stephens County	38,776	31,253
Ranger-Olden	20,931	23,147
Corsicana (Heavy)	10,201	10,300
Petrolia-Clay County	5,530	4,706
Thrall	2,090	1,667
Coleman County	831	298
Totals for Texas	978,773	941,224
Totals for Arkansas	54,774	52,163
Totals for Louisiana	32,630	31,417
Grand total five states	2,181,455	2,042,652



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This power has been pronounced by some of our largest producers as one of the best pumping units on the market for wells in territory of medium depth.

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Mountain States Rubber Co., 1238 Broadway, Denver, Colo.
On permanent display at Tulsa Industrial Exhibition

Permits Granted and Locations for New Wells
(California—Kansas—Oklahoma—Texas—Arkansas—Louisiana)

KANSAS

Cowley County—Titus et al's Crouch 2, southeast corner of 31-30-6.

Chase County—Muncie Oil Co.'s Quinn 1, northeast corner of the southeast of 1-19-8.

Greenwood County—York State Oil Co.'s O'Neal 4, southeast corner of 32-22-11. Houston-Oklahoma Oil Co.'s Sullivan 6, southwest corner of the northwest of the northwest of 14-24-12. Roth & Mission Oil Co.'s No. 9, center of the east line of the northeast of 1-24-9.

McPhearson County—Wolfe Creek Oil & Gas Co.'s Yoder 1, northeast corner of the southeast of the northwest of 9-21-5w.

Russell County—Valerius Oil & Gas Co.'s Oswald 5, northeast corner of the northwest of the northwest of 17-12-15w.

Sumner County—Phillips Petroleum Co.'s Smith 1, southwest corner of the southeast of 12-30-4

OKLAHOMA

Caddo County—English Drilling Co.'s Headlands 3, NWc SW NE 11-5-9w. Acme Dev. Co.'s Fugate 2, NWc NE NE SW 35-6-10w.

Carter County—Humble Oil & Refining Co.'s Dexter 2, C SE SW SE 28-1-3w; Lusk 2, C NW NW NE 33-1-3w. Magnolia Pet. Co.'s Williams 1, C NW NW SW 35-1-3w; Smith Davis 2, C NW SE SW 23-2-3w. Humble Oil & Ref. Co.'s Burrows 2, C SW NW NW 32-2-2w. Healdton Oil & Gas Co.'s Muller 1, C NE NE NW 9-4-4w.

Cotton County—Garven & Bilboa No. 1, C SE NE 22-2-10w.

Creek County—F. A. Billingslea No. 1, SWc NW 23-14-9. Pure Oil Co.'s No. 15, NWc SE NW 17-15-8. Roxana Petroleum Co., No. 4, SWc NE NW 17-15-8. Pure Oil Co., No. 1, SEc NW NW 27-15-9. Texas Co., Snyder 1, NWc NE NW 27-15-10. Wilcox's No. 7 Post, NEc SE NW 33-15-10. Riverland Co., No. 6, SWc NW SE SE 8-16-12; No. 7, Sand lease, NWc SW NE SE 8-16-12. Prairie Oil & Gas Co., No. 2, SWc SE SE 21-17-9. S. J. Smith, No. 1-A, NWc SE 3-17-11. J. B. Grieves, No. 2 Grayson, SEc NW SE SW 12-19-8.

Grant County—Western States Land & Development Co., No. 4A, Stewart, SWc NE SE 22-27-3w.

Kay County—Harold Petroleum Co., No. 1 Case, SEc SW 4-27-1w.

Muskogee County—J. A. Shepard No. 4 Colbert, NEc SE SW 16-13-16. A. B. Ice No. 2, Perryman, NWc SE NW 2-15-16. H. E. Williams No. 3, Manuel, C W L SW NW 17-15-17.

Noble County—Twin State Oil Co., No. 1, Enright, NWc NE 30-21-1w.

Okmulgee County—Eureka Oil Co., No. 9 Rentie, SWc NW 31-12-12. Jess Rebold No. 1, Webster, SWc NW 6-13-11. Iron Mountain Oil Co., No. 6, Thornberg, SEc NW 24-13-14 (old well deepening). Savoy Oil Co. et al's No. 1, NEc NW NW 24-15-12. Swindler & Papoose Oil Co., No. 23, Osborne, C E L SW SE 21-15-14.

Pawnee County—Flynn & Morgan No. 1 Davis, SEc SW NW 4-20-5. Turman Oil Co., No. 1, Krow, SWc NW 4-20-5.

Payne County—R. C. Jones No. 1, Ballard, C SE SE 31-18-4 (old well deepening). Mulberry & Skelly companies No. 2, Payne, SWc SE SW 32-18-4.

Seminole County—Magnolia Petroleum Co., No. 1, Corsicana, SEc 30-8-8. W. R. Ramsey No. 1, W. Johnson, C NW SE SE 30-8-8. Ramsey et al's No. 1, Salinda, C SE NW NE 31-8-8. Dixie Oil Co., No. 2, Ed Parker, NWc NE SW 32-8-8. Louis Sykes & Boggs Oil Corp., No. 2, Willis, NEc 31-8-8. Shaffer Oil & Refining Co., No. 1, Perryman, NWc SW NW 32-8-8. Johnson & Ash No. 1, Jefferson, NWc NE SW 35-8-8. Burke-Greis Oil Co., No. 3, Brown, SEc SW SE 15-10-8. Cosden No. 5, Yahola, C SW SE SE 15-10-8. Gypsy Oil Co., No. 4, Willis, C NE NE NW 15-10-8. Roxana Petroleum Co., No. 1, Harjo, C NE SE NE 15-10-8. Berry Petroleum Co., No. 3 Yahola, C SE NW NE 22-10-8; No. 4, C NE NW NE 22-10-8. Cosden No. 1, Yahola, C NW NE NE 22-10-8, same lease, C NE SW NE 22-10-8.

Stephens County—Clark & Cowden No. 1, Brauch, C SE SE SE 36-1-8w.

Tulsa County—Wood & Farren No. 1, NWc SE SW 35-19-11 (old well deepening). Shaffer Oil & Ref. Co., No. 1, SWc NW SW 5-19-12. Thompson & Black No. 3, SEc NE NE NE 7-19-12. Caldwell & Son No. 1, Lot 25, blk. 1, townsite of Very station, NW¼ 8-19-12. Lineberger et al's No. 1, Lot 4, Blk. 7, NW¼ 8-19-13, Blk. 1, NW¼ 8-19-12. Stein et al's, Lot NW¼ 8-19-12. McDonald et al's No. 1, Lot 13, Blk. 1, NW¼ 8-19-12. Stein & et al's, Lot 10, Blks. 6-10, NW¼ 8-19-12. Caldwell & Son No. 1, Lot 6, Blk. 2, NW¼ 8-19-12.

TEXAS

Archer County—H. L. Alford's J. L. Anderson 1, Clark & Plumb sur, blk 4, 150 ft to N and E lines. A. J. Davis' J. T. Richardson 1, Anderson Pasture sur, blk 15, 150 ft to S and W lines. O. W. Cox's M. Pechacek 1, M. Fannin sur, 150 ft to N and E lines. Carey & Yarbrough's L. F. Wilson 4, Amer Trib sur, blk 29, 150 ft to N and E lines. Shamrock Oil Co.'s J. T. Richardson 8, G. P. Diggs sur, 511 ft E No. 7.

Bexar County—National Oil Corp's T. G. Oliver 10, No. 4 sur, 200 ft to S line.

Brown County—R. F. Gilman et al's J. M. Moore 1, W. B. Smith sur, sec 149, 175 ft to S and W lines. Simms Oil Co.'s G. B. Gaines 1, W. Miller No. 149 sur, 150 ft to N and E lines. Curry & Conway Bros.' W. H. G. Chambers 1, Greenburg Logan sur, 200 ft to E and 300 ft to S line.

Callahan County—Wittmer Property Trustee's R. D. Williams 13, T&P Ry sur, sec 1, 350 ft W No. 1. Godley Oil & Gas Co.'s J. T. Ogle 8, TE&L sur, sec 2297, 450 ft to E and 150 ft to S line. W. J. House's A. H. Wagley 2, I&GN Ry sur, 300 ft N No. 1. L. C. Lucas et al's O. Grisham 1, TE&L No. 2300 sur, NE cor. C. M. Jameson's H. Wagley 1, D&D Asy sur, sec 2, 150 ft to N and E lines. P. T. C. Oil Co.'s R. D. Williams 3, TE&L No. 2298 sur, 450 ft to N and 150 ft to W line. E. L. Bradley's O. Wagley 2, TE&L No. 2996 sur, 150 ft to N and 750 ft to E line. Ketchum, Milton & Spurgeon's Dillar Bros. 1, Insane Asy sur, sec 55, 200 ft to N and 300 ft to E line.

Carson County—Skelly Oil Co.'s S. B. Burnett 1, I&GN Ry sur, sec 93, NE Cor.

Dallas County—Rockdale Oil Co.'s J. W. Roark 2, T. J. Chambers sur, 420 ft N No. 1.

Eastland County—Day & Davis, W. C. Kincaid, W. C. Kincaid sur, blk 4, 175 ft to W and 420 ft to S line. Mid-Kansas Oil & Gas Co.'s A. M. Foote 5, G. E. Moore sur, 475 ft to N and 500 ft to E line. Cardinal Oil Co.'s W. R. Matthews 2, H&TC Ry sur, blk 4, 600 ft E No. 1. Mogul Oil Corp.'s H. C. Earnest 3, H&TC Ry sur, sec 3, 290 ft to N and 220 ft to E line. Republic Prod. Co.'s W. M. Sneed 2, McLennan C. S. L. sur, sec 30, 150 ft to E line. C. Andrade's J. P. Gilbert 1, TE&L No. 2996 sur, 150 ft to N and 900 ft to E line. G. Albon et al's A. L. Watson 1, E. S. Richardson sur, blk 6, NW Cor.

Guadalupe County—Dancinger Plateau Oil Co.'s McKean 6, 150 ft to S line; 7, 150 ft to S line; 8, 150 ft to S and W lines.

Hardin County—Kirby Pet. Co.'s W. E. Hodges 2, M. Harris sur, 150 ft to S and 350 ft to E line. Sun Oil Co.'s Smith, Crawford & Sunfield's No. 170, BBB&C Ry sur, NE Cor.

Jasper-Angelina Counties—Ohio Red River Oil Co.'s J. H. Graham 2, J. H. Graham sur, South Central.

Limestone County—L. E. Trout et al's W. R. Roach 1, D. Ford sur, 250 ft to E and 20 ft to S line.

Liberty County—Republic Prod. Co.'s Dolbear 88, J. Devore sur, 1227 ft to E and 2385 ft to S line.

Milam County—H. B. Glass & Co.'s Von Ganten 1, Robertson sur, 350 ft to W line. Rountree Lee Oil Co.'s T. D. Rountree 6, T. J. Chambers No. 2 sur, 410 ft W No. 5.

Mitchell County—Earl Morrison's W. H. Rowe 1, T&P Ry sur, sec 15, 330 ft to S and W lines.

Navarro County—Simms Oil Co.'s W. A. Coleman 1, Mathews & Bragg sur, 150 ft to S and E lines; P. Collins 1, J. Smith sur, 150 ft to N and W lines. Brothers Oil Co.'s Inc. T. W. Bounds 7, T. T. Curry sur, 400 ft S No. 6. G. L. Peyton's R. R. Davis 1, J. Choate sur, 150 ft to N and W lines. Western Oil Fields Corp.'s R. C. Harwell B-7, J. D. Matthews sur, 50 ft S No. 7. G. C. Kent's G. C. Boyd 3, J. D. Matthews sur, 150 ft N of center. Godley Oil & Gas Co.'s A. A. Allison 8, J. White sur, NW of No. 5. Brandon & McCamey Corp.'s K. Wolens 1, D. Mathews sur, 150 ft to W and 300 ft to N line. McDonald & Longley's A. N. Brown 1, Upper Jno. White sur, SE cor; 2, SW cor; 4, S of No. 1; H. A. Swink 1, Jno. White sur, NW cor; 2, S of No. 1.

Panola County—B. E. Reed's E. R. Vinson 1, T. Anderson sur, 800 ft to N and E lines.

Shackelford County—Shertzer Bros.' T. H. J. Cook 10, Univ. Lands sur, blk 19, 150 ft N No. 7. W. F. Belcher et al's L. M. Watson 8, Univ. Lands sur, blk 36, 300 ft N No. 4. J.

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California.

	Number of New Wells for Week Ending												
State—	Apr. 19	Apr. 26	May 3	May 10	May 17	May 24	May 31	June 7	June 14	June 21	June 28	July 5	July 11
Kansas	15	19	12	7	21	61	27	18	..	..	17	9	8
Oklahoma	144	126	62	140	17	80	124	68	61	81	78	70	59
Arkansas	45	71	37	74	57	35	39	36	22	33	24	..	18
Louisiana	8	20	8	17	12	16	13	13	11	14	13	4	8
Texas	173	125	215	174	142	192	162	117	104	145	132	134	65
California	..	...	...	...	...	...	...	...	...	...	...	27	22
Totals	385	361	334	412	303	384	365	215	198	273	264	244	180

R. Knapp's L. H. Hill 1, Blind Asy sur, sec 39, 150 ft to S and E lines.

Stephens County—Gulf Prod. Co.'s I. A. Stoker 8, Insane Asy sur, sec 11, NW Cor.

Stonewall County—Elder Nance's A. C. Hecht 1, H&TC Ry sur, sec 119, 150 ft to N and W lines.

Throckmorton County—Texhoma Oil & Ref. Co.'s Reynolds Co. 1, Comanche Res., 150 ft to S and E lines.

Wichita County—Dr. Chas. Wm. Wallace's Fee 1, Tarrant C. S. L. sur, sec 22, 150 ft to N and W lines. S. & R. Oil Co.'s Smith & Robert's 1, HT&B Ry sur, sec 10, 40 ft to W and 125 ft to S line. Evangline Pet. Co.'s Burnett Est. 11, H&GN Ry sur, blk 9, 772 ft to N and 650 ft to E line. Magnolia Pet. Co.'s P. Waggoner 3, H&TC Ry sur, sec 33, 400 ft E No. 1; T. P. Douglas 9, blk 1, 400 ft E No. 4; Rio Bravo 39, sec 31, 200 ft to W and 750 ft to S line. Roberts & Hill's W. W. Overby 10, H. B. Balch sur, 300 ft E No. 8.

Webb County—E. M. Alworth's E. Garcia 3, No. 592 sur, blk 20, between No. 2 and No. 4.

LOUISIANA

Bossier Parish—Standard Oil Co. of La.'s McDade 6, 6-16n-11w, 300 ft N and 300 ft W of SE Cor. NW¼ of SE¼; Wyche 17, 14-19n-11w, 200 ft N and 150 ft E of SW Cor. NW¼ of NW¼.

Cameron Parish—Yount-Lee Oil Co.'s School Lands 2, 16-12s-10w, 862 ft E and 222 ft N of Cor. of NE¼.

La Salle Parish—Gulf Refining Co. of La.'s Urania A-1, 22-10n-2e, 1650 ft W and 1035 ft N of SE Cor. of Sec.

Ouachita Parish—La Del Oil Properties' Fee 28, 30-19n-5e, 700 ft N and 620 ft W of SE Cor. of NE¼.

Webster Parish—J. F. Basinger's Pine Woods Lbr. 1, 2-22n-11w, 330 ft S and 330 ft E of Center of Sec. Moffett & Murphy's Pardee 1, 24-21n-10w, 330 ft S and 330 ft E of NW Cor. SE¼ of NE¼. Woodley Petroleum Co.'s Merritt 3, 14-21n-10w, 200 ft W and 660 ft S of NE Cor. NW¼ of NE¼.

ARKANSAS

Columbia County—Gulf Ref. Co.'s W. Jones 3, 36-15-20, 990 ft S and 330 ft W of NEc of Sec.

Ouachita County—H. Anderson Trust's Anderson 4, 26-15-17, 200 ft N and E of SWc NW¼ NE¼. Dr. Clark's School Yard 1, 28-15-16, 200 ft N and E of SWc NW¼ NW¼. Finley et al's Kellar 1, 25-15-17, center of west line of S½ NW¼ NW¼. Magnolia Pet. Co.'s Brown 1, 26-15-17, 200 ft S and W of NEc SE¼ SE¼. R. B. Nelson et al's Anderson 4, 26-15-17, 200 ft S & E of NWc E½ SW¼ NE¼. Owenwood Oil Corp.'s Snyder 4, 34-15-15, 200 ft S and E of NWc SW¼ SW¼. Whittaker et al's Anderson 4, 23-15-17, 200 ft N and E of SWc SW¼ SE¼.

Union County—Arkansas Fuel Oil Co.'s Dumas 1, 29-16-15, 200 ft S and W of NEc SW¼. Cherokee Pet. Co.'s Burton 3, 25-16-16, 200 ft N and E of SWc SW¼ NW¼ NE¼. East Oil Co.'s Thompson 1, 5-17-15, 200 ft N and E of SWc SE¼ NW¼. Gilliland Oil Co.'s Staples 3, 1-16-17, 500 ft S and 200 ft W of NEc Lot 5, west half. Humble O. & R. Co.'s Burton 4, 25-16-16, 200 ft N and E of SWc NE¼ NW¼. Lyell et al's Fee 5, 3-16-15, 200 ft S and E of NWc S½ SE¼ NW¼. Pure Oil Co.'s L. N. Hicks 2, 29-16-15, 200 ft S and W of NEc NW¼ NE¼. Riggs Drlg. Co.'s Rice 2, 6-16-16, 200 ft N and W of SEc of Lot 4, in NW¼. Stanes et al's Moore 2, 25-16-16, 200 ft S and W of NEc NW¼ NW¼. United Central Oil Co.'s Burton 1, 25-16-16, 200 ft S and E of NWc S½ SE½ NW¼.

CALIFORNIA

Torrance Field—Pan American Pet. Co.'s Parmer No. 1, 13-4-14; Pate No. 2, 24-4-14.

Rosecrans Field—Julian Pet. Corp.'s Athens Comm. No. 1, 7-3-13. Bankline Oil Co.'s Gordon No. 1, 18-3-13. Mathews Pet. Corp.'s Ball 1, 20-3-13.

Torrance Field—Superior Oil Co.'s Torrance 40, 24-4-14. Standard Oil Co.'s Dominguez 10, 13-4-14.

Santa Fe Springs Field—Associated Oil Co.'s McNally 2, 10-3-11.

Los Angeles County Field—Superior Oil Co.'s A-1, 13-2-11; Andres 1, 12-2-11.

Santa Paula Field—Lincoln Oil & Gas Co.'s No. 29, 21-4-21.

Cat Canyon Field—Brooks Oil Co.'s 4, 32-9-32; 5, 32-9-32.

Midway Field—Kendon Pet. Co.'s 3, 35-32-23. North American Oil Cons.'s 9, 30-31-24. Balboa Oil Co.'s 30, 24-31-23. Pacific Oil Co.'s 37, 31-31-24.

Sunset Field—B. B. & O. Oil Co.'s 30, 28-12-24. C. J. Berry's Hillside 30, 34-12-24; Hillside 29, 34-12-24.

Tulare County Field—Thomas L. Woodruff's 1, 17-22-27.

Fresno County Field—Thomas M. Crum's 1, 20-21-17.

Glenn D. Robertson, assistant geologist for the Associated Oil Company, with headquarters at Los Angeles, was rejoicing last week over the arrival of a new son at his home, the young man arriving July 10. Glenn was too happy to decide whether his first born was to be a geologist or just a regular boy.

E. Call Brown, formerly in charge of the geological department of the California Petroleum Corporation before his departure for New Zealand, and other countries, to do special work for the British government and others, has returned to Los Angeles headquarters after an absence of several months.

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WILDCATS FROM ALL SECTIONS

California Company Drills Past Mile in West Texas Wildcat; Active in Mitchell County Section

Fort Worth, Texas, July 14.—Mitchell County section of West Texas has added five new locations recently for immediate drilling, and tests now nearing completion in the field assure a steady increase in daily production, which is now averaging close to 1500 barrels. The California Company, an operating subsidiary of the Standard Oil Company of California, is the largest lease and production owner in the field, and is now drilling eight tests, besides its 16 completed wells, which are pumping about 800 barrels of oil daily. This company's E. Morrison 1-A, located near the heart of the field, has reached a depth of one mile in search of the Bend series, and is probably one of the most thorough tests ever drilled in West Texas, as every string of casing was cemented, and several caverns encountered below 3000 feet were cemented up and drilled through. This deep test encountered salt water last week at 5285 feet, and may be abandoned at this depth.

The Sloan Oil Company is the second largest producer in Mitchell County, and during the past week maintained a daily average of 535 barrels from seven producers on the Smart and H. C. Miller leases. This company is obtaining the highest crude yield per well in the field, and its H. C. Miller No. 1 is pumping about 135 barrels daily, while its Sam Smart is equally as good. A location was made last week for a second test to be drilled on the Miller lease. The Sloan Oil Company's production has been contracted for by the West Texas Refining Company, Colorado, Texas, while the California Company's output is being sold on contract to the Rio Grande Oil Company, which operates refineries at El Paso and Tucson, Arizona.

Col. A. E. Humphreys, Ira B. Humphreys and Denver parties have started a deep test on the P. C. Coleman ranch in the upper part of Mitchell County. This test was spudded last week, and is located 330 feet each way from the northeast corner of section 68, H. & T. C. Ry. survey. The Colorado-Texas Petroleum Company has made its third location on the W. L. Foster lease in section 43, T. & P. Ry. survey, block 29, while Horace Cook and others are to drill a test in the same section. M. E. Eddleman and others have completed a rig for a deep test to be drilled on the A. C. Gist land, T. & P. Ry survey, block 26.

Callahan County's recent wildcat producer, which was brought in by the Dudley Oil and Gas Company on the Hugh Moore land near the Taylor County line, is standing with hole nearly full of oil from sand at 1835-38 feet while a 500 barrel tank is being erected to make a test of the production. This well is located in section 9, S. P. Ry. Company survey, block 6, and is more than 20 miles from the nearest pipe line.

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Callahan County—		
John Sherrein et al Cathey 3	40	1783
Hickey et al E. L. Findley 2.....	†	2710
Coleman County—		
W. A. Gray et al Gray 5	15	2485
Mitchell County—		
Sloan Oil Co. Sam Smart 5	85	3050

DRILLING REPORT

BROWN COUNTY—M. T. Anderson-Moore et al's Wheeler 1, sd 1155 ft. Chas. S. Avery et al's Cox 3, dr 365 ft. Cal-Bro Oil Co.'s Prather-Stone 2, dr 800 ft. Carlton-Tippett et al's O. B. Fomby 1, dr 2400 ft. Gilliam et al's J. W. Newton 4, dr 945 ft. Gump et al's Moore 1, dr 500 ft. Honea et al's E. DeBusk 2, sd 1845 ft. Leonard et al's Prather 2, sd 2370 ft. Maher Bros.' Bohara 1, sd 2260 ft. Mahlstedt Mook Oil Co.'s G. B. Gaines 1, rig; J. K. Gafford 1, timbers. Moore et al's Chambers 1, rig. McMurray et al's Newton 2, machine. Omaha Southern Oil Co.'s G. B. Gaines 2, co 1690 ft. Simms Oil Co.'s G. B. Gaines 1, rig.

CALLAHAN COUNTY — Tom Bryant et al's R. B. Forbes 1, dr 1010 ft. Byron-Union Oil Co.'s Hennessey 1, sd 4045 ft. Chas. Dutton et al's Carter 1, ur cas 845 ft; Harwell 1, dr 730 ft; Cathey 4, dr 800 ft; Cathey 5, timbers; Cathey 6, rig; Cathey 7, rig. Dudley Oil & Gas Co.'s Hugh Moore 1, erecting storage to make production ttst, with hole nearly full oil at 1835-38 ft. Hickey et al's E. L. Findley 2-A, rig. Junior Oil Co.'s A. L. Huntington 1, sd for cas 745 ft. Kellogg Drilling Co.'s Snyder 1, sd 905 ft. McBride et al's Isenhower 1, sd 435 ft. McGee et al's Isenhower 1, dry after shot 1765 ft. McMath et al's Isenhower 1, spd and sd. E. W. Montray et al's Isenhower 1, lcn. Pope & Wilson's Albin-Webb 6, rig. John Serrien et al's Cathey 4, dr 1100 ft. Shackelford et al's Chas. Allen 1, sd 1675 ft. Tidal Oil Co.'s Mrs. Ella Cathey 4, dr 1300 ft. Texas Pacific Coal & Oil Co.'s N. J. Biggerstaff 1, dr 1010 ft.

PALO PINTO COUNTY — Buffalo-Brazos Oil Co.'s Dalton 1-DD, dr 3005 ft. Cunningham et al's Holly 1, sd 615 ft. Guaranty Royalty Co.'s Mosley 1, spd and sd. McKinney et al's Marsden 1, sd 465 ft. S. W. Manning et al's R. Hitson 1, sd 3640 ft. Phillips & Graham's J. A. Caudill 1, sd 3800 ft. Strawn Coal Co.'s Fee 1, dr 1550 ft. Scott & McCluer's River Bed 1, sd 3715 ft. H. L. Singleton et al's W. Holt 1, sd 4360 ft. B. H. Talbert et al's J. J. Thornton 1, sd 725 ft. Texas Pacific Coal & Oil Co.'s J. N. Stewart 146, lcn. Welch et al's Newman 1, dr 360 ft. Youkan Oil & Gas Co.'s Seaman 1, prep to abn 3965 ft.

BREWSTER COUNTY—Arco Development Co.'s H. L. Kokernot 1, sd 3775 ft. Brewster

Good New Mexico Well Indicated When Illinois Producers Third Test Flows After Being Shot

Artesia, New Mexico, July 14.—Responding to a shot of 130 quarts of nitro glycerine in the hard sand pay from 1947 to 1993 feet, the Illinois Producers Company's third test on permit land in the Eddy County section of the Pecos River Valley region of New Mexico flowed for six minutes over the top of the derrick while cleaning itself out, and gives promise of being the largest oil producer completed to date in the southeastern part of the state. No gauge has been taken on the production, owing to the company's 3000 barrels of storage facilities in the field being filled, but arrangements are being made to build a small pipe line from the field across the river to the Santa Fe railroad to market the oil. The well given a shot is located in the southeast of the northwest of section 32-18-28, and drilled into the pay sand last April with an estimated production of 200 barrels of 38 gravity oil daily.

The Illinois Producers Company's discovery well in the 1900-foot sand pay was drilled in last fall, and has supplied fuel oil for other drilling taking place in the field, but is now shut down for storage with hole about half full of oil. This well is located in the southwest of the northeast of section 31-18-28, Eddy County. The same company's second test was shut in last January after developing a flow of 2,000,000 cubic feet of wet gas from an upper sand at 1825 feet. It is located in the southeast of the southeast of section 25-18-27.

A showing of gas is reported in the sand pay at about 1900 feet in the wildcat test being drilled by Tigner-Windsor and others on permit land in section 14-17-28, or about nine miles northeast of the Illinois Producers' No. 3 producer.

The Pitcher Oil Company's No. 1 in section 12-18-27, or about two miles north of the Illinois Producers' gasser, is reported to have bailed some oil from a stray sand at 1675 feet, and is now drilling ahead.

The California Company, a subsidiary of the Standard of California, is moving in materials to drill a deep test in Colfax County in the northeast corner of the state. The test is to be located on the Florsheim ranch, west of the town of Springer, and the drilling crew have already arrived to start drilling shortly. A. S. Palmer is superintendent in charge of this test.

Oil Corp.'s W. H. Kokernot 1, sd 2515 ft. Portland Oil Synd.'s State 1, sd 3050 ft. Marathon Oil Co.'s Nigger Creek-Cage 1, sd 2685 ft. Nine Points Oil Co.'s Peralto & Finnell 1, sd 1570 ft.

COKE COUNTY—Ace Oil Co.'s W. C. Locke 1, spd and sd. Mexia-Equitable Oil Co.'s W. J. Hodges 1, sd 2505 ft.

CONCHO COUNTY — Dome Prod. Co.'s Mrs. C. M. Hartgrove 1, setting 8¼ casing 1225 ft. Signal Oil Co.'s Sam Waring 1, sd 3202 ft. Schultz Oil Co.'s W. O. Schultz 1, sd 3225 ft.

CRANE COUNTY — Texas Development Co.'s Jack Cowden 1, dr 615 ft.

CROCKETT COUNTY— Crockett Drilling Synd.'s J. M. Shannon 1, sd 4270 ft; Shannon 2, lcn; Robt. Massey 1, dr 850 ft. Mid-Kansas & Transcontinental's Harris Bros. 1, dr 2645 ft. Marathon Fold Drilling Club's L. P. Powell 1, fsh 845 ft. W. E. Ball et al's J. S. Todd 1, lcn.

A pipe line superintendent once said, "If there is any tool made that will pull the liners and valve seats in my pumps, I'll have to see it."

He Did!

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Valve Seat and Liner Pullers are on the Job Now

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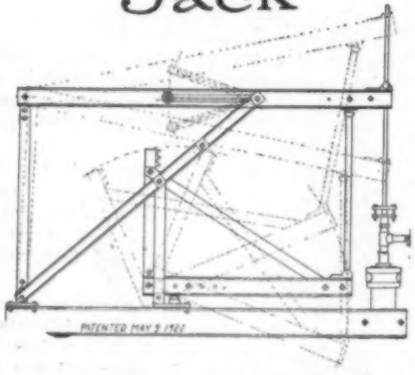
FULLERTON, CALIFORNIA

The Jensen Straight Lift Jack



The Polished Rod *can't* Bend

The Jensen Jack lifts it *Straight up,* and lowers it *straight down*

without any strain or excessive wear on the Rod, or on the Stuffing Box Rings, or on anything else.

The Straight Lift makes a five-foot stroke practical. Made in No. 2 and No. 3 sizes.

Jensen Bros. Mfg. Co.
Nowata, Oklahoma

CULBERSON COUNTY—David Flood et al's McAlpine et al 1, lcn. J. D. Wesner et al's Mack Sayles 1, sd 3105 ft.

DAWSON COUNTY—Lamesa Oil Co.'s John Burns 1, sd 2155 ft.

ECTOR COUNTY — Farmers Oil & Gas Co.'s Andy Newham 2, sd 1406 ft.

EL PASO COUNTY—Burns & Knight's Fee 1, sd 4170 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1, sd 3125 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, sd 1405 ft. Union Pet. Corp.'s Clyde C. Connell 1, dr 100 ft.

GLASSCOCK COUNTY—Ledger Oil Corp.'s C. I. Brunson 1, setting cas 3100 ft. Cushing Ranch Drilling Assn.'s W. H. Sparkman 1, sd 1950 ft.

HUDSPETH COUNTY—Wm. Loftus et al's Minnie Veal Slaughter 1, sd 1820 ft. Boole Oil Assn.'s Gardner et al 1, sd 1540 ft. Hueco Basin Oil Co.'s University 1, sd 2560 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil Development Co.'s J. A. Cullom 1, sd 3300 ft.

LOVING COUNTY—J. J. Wheat et al's N E. Chapman 1, spd and sd. Ramsey Prod. Co.'s Russell 1, sd 4485 ft; Russell 2, sd 810 ft. Ira J. Bell et al's H. Lepys 1, lcn.

MITCHELL COUNTY—The California Co.'s E. Morrison 1-A, showing salt water 5285 ft; Morrison (Lse. 5) 8, dr 2800 ft; Morrison 9, dr 2445 ft; Morrison 10, dr 1210 ft; Morrison 11, dr 1950 ft; W. H. Abrams (T&P) 6, dr 615 ft; A. L. Miller 3, dr 2830 ft; Miller 4, dr 2700 ft. Chal Daniel et al's W. D. Kynard 1, rig M. E. Eddleman et al's A. C. Gist 1, re-setting 12½-inch cas 805 ft. Morrison-Rowe Lease Synd.'s W. D. Kynard 1. rig. Tidal Oil Co.'s J. J. Handley 1, cemented cas 2690 ft. Horace Cook et al's W. L. Foster 2, lcn. Colorado-Texas Pet. Co.'s W. L. Foster 3, lcn. I. B. Humphreys et al's P. C. Coleman 1, spudding. J. T. Harris et al's W. C. Brown 1, lcn. Sloan Oil Co.'s H. C. Miller 2, lcn.

PECOS COUNTY—Arkansas Fuel Oil Co et al's Blackstone & Slaughter 1, lcn. C. E Menzie et al's Sherbino Bros. 1, lcn. Trans-Pecos Oil Co.'s Johnson-Troy 1, sd 2965 ft; H. L. Thomas 1, sd 1610 ft; Bennett 1, sd 1245 ft; Turney 1, sd 2905 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1205 ft. Oregon-Texas Oil Co.'s Turney 1, sd 3520 ft Quinby et al's Townsite 1, rig.

PRESIDIO COUNTY—Claude Byler et al's Toole Estate 1, sd 865 ft.

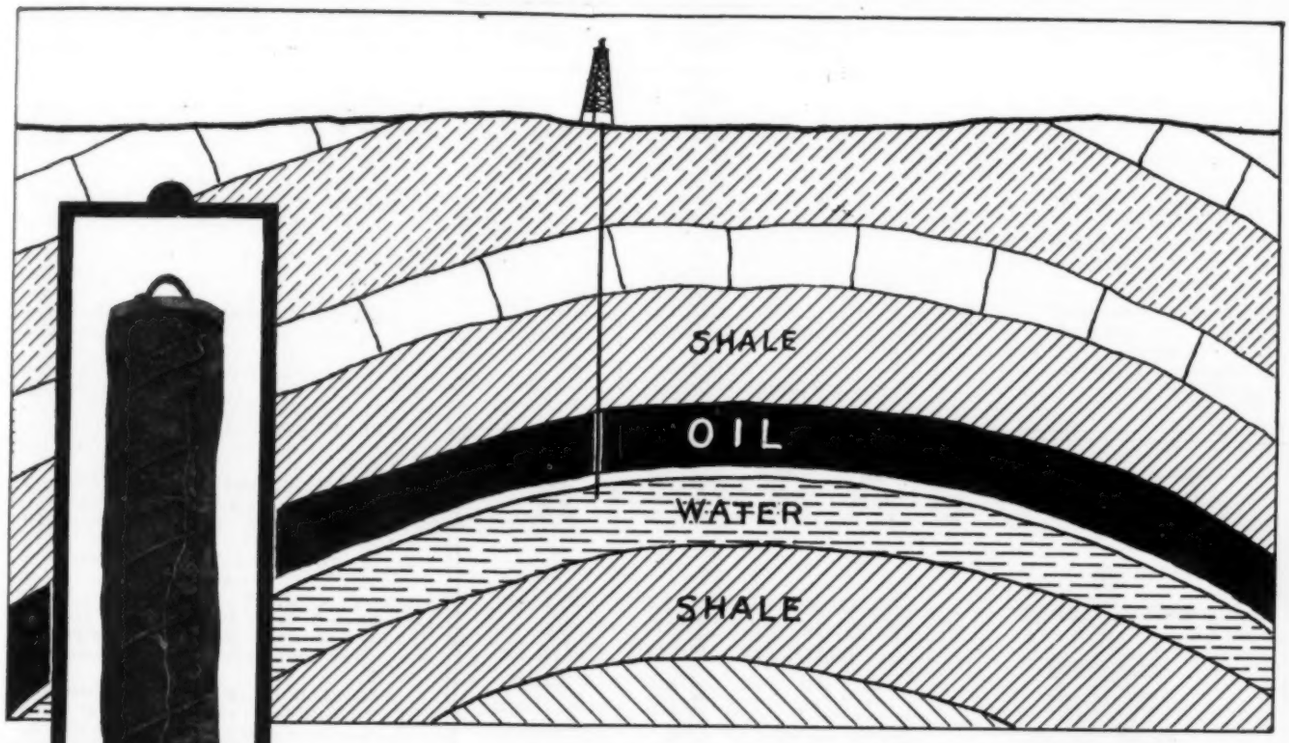
REAGAN COUNTY—Big Lake Oil Co.'s University 10, flowing 115 Bbls. oil per hour, td 2950 ft; University 11, showing oil from 2515 to 2518 ft. Mid-Kansas & Transcontinental Oil Co.'s McIntosh 1, sd with hole full water 3433 ft. Wm. Dunning & Humble Oil & Ref. Co.'s Sawyer Cattle Co. 1, showing oil from 2385 to 2400 ft, dr 2750 ft. Texon Oil & Land Co.'s University 1, (Sec. 1, Blk. 8) fsh tools 2600 ft; University 1, (Sec. 22, Blk. 9) fsh 1605 ft. Crockett Drilling Synd.'s University 1, (Sec. 9, Blk. 9) rig. C. J. Wrightsman et al's Ingham 1, lcn. Orient Pet. Co.'s J. Belcher 1, lcn.

REEVES COUNTY — Dixieland Oil Co.'s Oates 2, sd 4505 ft. W. S. Troy et al's H. G. Hersheusen 1, sd 415 ft. Bell Reeves Oil Co.'s Findley et al 1, sd 1540 ft. El Paso-Saragosa Oil Co.'s George Wirt 1, sd 540 ft. Parker-Hancock Oil Co.'s Johnson 1, sd 1930 ft. Willoughby Pet. Co.'s W. D. Cowan 1, sd 610 ft. Rodenbaugh & O'Connell's W. D. Casey 1, sd 845 ft. Pecos Pet. Co.'s Johnson 1, sd 1930 ft. Texas Drilling Co.'s Pecos Valley 1, sd 1105 ft.

SCURRY COUNTY—Camp Springs Oil & Gas Co.'s L. E. Howell 1, lcn; W. R. Quinn 1, sd 3005 ft; W. V. Jones 1, sd 605 ft. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 3000 ft. Stanton Oil Co.'s J. W. Riley 1, sd 3505 ft.

STERLING COUNTY — Chicago-Texas Oil & Gas Co.'s D. C. Durham 1, sd 1427 ft; Durham 2, lcn. Co-operative Lease & Dev. Co.'s Douthitt 1, sd 1775 ft. Fidelity Oil Co.'s Hull 1, sd for cas 1640 ft. Concho River Drilling Co.'s Geo. McIntyre 1, sd 500 ft.

TAYLOR COUNTY — Sanger Oil & Ref.



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This well has been drilled through the oil into bottom water.

The plugging off of bottom water was at one time a serious problem, but today there is a really scientific plug available. If prompt action is taken, with a GUIBERSON Bottom Water Plug, before the hole has lost its shape, the operator can be certain of a tight and permanent plug.

This plug is set in neat cement. As it collapses its steel spirals expand laterally, and their sharp edges bite into the walls of the well around their entire circumference. The resulting grip is like that of a screw in wood. Friction is not depended on. The tight compression of the packing between the spirals combines with the cement to give an absolutely gas and water-tight seal.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The Oil Weekly

Co.'s McClure 1, lcn; Tom Sawyer 1, sd for cas 2700 ft; Hollingshead 1, rig.

TERRELL COUNTY—Southwest Texas Oil & Gas Co.'s S. W. T. No. 1, sd 3515 ft. Pittsburg-Western Oil Co.'s Chas. Downey 1, sd 1260 ft.

TOM GREEN COUNTY—Ranger Investment & Dev. Co.'s Harris 1, sd 3365 ft.

VAL VERDE COUNTY—Independent Operators' W. F. & W. E. Whitehead 1, sd 2200 ft. East Del Rio Oil Co.'s E. F. Russell 1, sd 1800 ft. Hodge-Wright et al's Belle Moore Estate 1, sd 680 ft.

WARD COUNTY—Arthur Pitts Oil Co.'s Soda Lake 1, sd 2205 ft; River 1, sd 4675 ft. Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft. Trans-Pecos Oil Co.'s Longnecker 1, sd 1765 ft.

East Central Texas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Hopkins County—		
S. P. Borden-Allison et al W. A. Smith 1 (Eliza Mitchell sur.)....	*	3430
Van Zandt County—		
Brookins-Jenkins & Sun Oil Co.'s R. P. Hughes 1 (E. Alvarado sur.)..	*	3505
Mills Bennett & Van Zandt Oil & Gas Co.'s J. H. Jones 1, (J. N. Holt sur.)	*	3347

DRILLING REPORT

ANDERSON COUNTY—Roeser Pet. Co.'s J. D. Via 1, (Isaac Simpson sur) Austin chalk from 3440 to 3777 ft, trying to run 5 3-16 cas to test gas at 4253 ft, td 4411 ft.

BOWIE COUNTY—Boyd Oil Co. et al's Shaw 1, (Jacob Barkman sur, located SW of New Boston) lcn. McCullough & Roell's W. R. Williams 1, (L. M. Rice sur) set surface cas and sd 195 ft. Mission Oil Co.'s W. H. Nelson 1, (N. D. Headright sur) sd repairs 1070 ft. Delaney Oil & Gas Co.'s Rochelle 1, (Collin-McKinney sur) sd 2290 ft. Hooks Oil & Gas Co.'s Lewis Forte 1, (J. Parkman sur) temp abn 2400 ft. Williams et al's Daulby 1, sd 205 ft.

DELTA COUNTY—J. C. McNeil et al's M. C. Patrick 1, (D. Hodges sur) Austin chalk from 1710 to 2000 ft, sd 2730 ft.

FRANKLIN COUNTY—J. C. McNeil et al's J. C. Harper 1, (J. S. Clift sur) Austin chalk from 1410 to 1510 ft, sd 2190 ft.

FREESTONE COUNTY—Hall & Hodges et al's F. E. Gaddy 1. (H. Howard sur) top Austin chalk 2607 ft. sd 3240 ft.

HENDERSON COUNTY—Fred E. Haynes et al's E. G. Bounds 1, (Henry Jeffreys sur) dr 400 ft.

HOPKINS COUNTY—Gulf Prod. Co.'s W. J. Davis 1, (Jas. Clark sur) lcn. The Texas Co.'s M. F. Enix 1, (J. Halle sur) dr 2165 ft. Kelsey et al's Addie Brooks 1, (D. Dowdle sur) dr 900 ft. Bar-Tex Drilling Co.'s C. H. McClure 1, (D. Waggoner sur) dr.

HUNT COUNTY—Gulf Production Co.'s J. C. George 1, (E. Tidwell sur) lcn. Sam Tull-all-Kelsey et al's J. W. Barnett 1, (Alex Smith sur) dk. Harlow Bros. et al's McDaniel 1, sd 925 ft.

KAUFMAN COUNTY—Judge Germany et al's W. S. Kirby 1, (S. Edens sur) sd 2896 ft. Kelsey-Jackson et al's Watkins 1, sd 2790 ft.

LIMESTONE COUNTY—L. E. Trout et al's W. R. Roach 1, (Daniel Ford sur) dr 1600 ft.

NAVARRO COUNTY—Boyd Oil Co.'s G. R. McGowan 1, plugging back to test upper Woodbine sand pay, td 3413½ feet; McGowan 2, (located 1000 ft northeast of No. 1) rigging up. Alex Patrick & A. G. Ilseng's W. L. Roberts 1, (Jos. Mayor sur) dr in chalk 1700 ft.

RAINS COUNTY—McLaughlin-Lyles & Atlantic Oil Producing Co.'s J. T. Dowdle 1, (O. S. Downing sur) spudding.

RED RIVER COUNTY—Johnson Pet. Co.'s Lady Alice 1, sd for cas 2740 ft.

TITUS COUNTY—Magnolia Pet. Co.'s George Antone 1, (M. V. Delgado sur) moving in materials for cable tool test. Humble Oil & Ref. Co.'s C. D. Brown 2-A, (John Tomlinson sur) lcn.

VAN ZANDT COUNTY—Terrell Oil Co.'s J. T. Dunbar 1, (Van Sickle sur) showed oil in chalk 2412 ft, sd 2640 ft.

WOOD COUNTY—Golden Oil Co.'s J. D. Adrian 1, (Hallmark sur) sd 1500 ft.

There's A Reason

Concerns that buy valves in large quantities would not continue to buy LUDLOW DOUBLE GATE VALVES year after year unless LUDLOW VALVES gave them better service than any other valves on the market.

We would like to tell you more about these wonderful valves and the service they will give you.

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Bowie County Test Finds Gas Sand Near 900 Feet

Dallas, Texas, July 18.—Considerable excitement prevailed last Sunday in the vicinity of Leary, Bowie County, when a test being drilled by the Mission Oil Company hit a gas sand. Gas was struck at about 900 feet, and the pressure was sufficiently strong to throw mud and rock 30 feet above the derrick floor.

George B. McCullough et al, of Chicago, have cemented 12-inch casing at 191 feet, in their W. R. Williams 1, four miles southwest of New Boston.

About nine miles southwest of New Boston, the Boyd Oil Company has contracted to commence a well on the Herald Brothers block of acreage on or before August 1. This well will test a large well defined anticline.

Drilling has been resumed by F. R. Abbott on his Perkey 1, near Dalby Springs. This well is now at a depth of about 2020 feet.

The Marland Company has recently

REDUCE YOUR BUILDING COSTS

WITH

CRAIN SECTIONAL (PORTABLE) HOUSES

Their first cost is very low for buildings of such substantial construction—due to their economical, large scale manufacture in standardized units.

Crain Sectional Houses for Industrial Purposes

Because of their simple sectional construction, they can be quickly assembled by ordinary workmen—skilled carpenters are not necessary—hence a big saving in labor costs, as well as time.

Their Sectional Construction permits of their being knocked down, moved, and re-assembled on the next job—thus yielding full salvage value.

Crain Ready-Cut Houses for Permanent Homes

And You Can Depend On Crain "Overnight" Service

Crain Sectional Buildings of all types are carried in stock at all times, ready to be shipped immediately on receipt of your order.

Write for Catalog of Plans and Prices

Crain Ready-Cut House Co.

HOUSTON, TEXAS

taken over a block of 16,000 acres in central Bowie County, and the Humble Oil and Refining Company has acquired an adjacent block containing about 1000 acres.

The OIL WEEKLY has received a number of banners advertising the International Petroleum Exposition. These banners are to be tied on automobiles, and anyone writing for a banner will be supplied as long as they last. When the supply is exhausted, all inquiries will be forwarded to the exposition headquarters where a constant supply will be kept on hand. Advertise the exposition by carrying a banner on your automobile.

North Texas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Clay County—		
J. T. Cumley's J. D. Stine 1	130	1781
E. C. D'Yarmett's O. Bullington 1	20	1195
Throckmorton County—		
Maer & Staniforth's W. H. Portwood 1	*	1805
Wilbarger County—		
George Church's W. B. Dill 1	¶15	1258

DRILLING REPORT

(Note.—This report does not include tests that have been shut down indefinitely.)

BAYLOR COUNTY—Batchelder & King's E. S. Wallace 1, rigging up. B. Cranfill et al's W. B. Mills 2, dr 860 ft. Crittenden et al's J. B. Coffee 1, dr 1500 ft. Hapgood & Anderson's J. H. Turbeville 1, sd 1620 ft. Independent Oil Co.'s Robertson County School Land 1, co 1040 ft. C. B. Jetter et al's F. Gatzki 1, sd 700 ft. D. H. Moore et al's H. H. Fancer 1, sd 50 ft.

CLAY COUNTY—Crude Oil Producing Co.'s Kinder 1, sd 1060 ft. E. C. D'Yarmett's Scott 1, rigging rotary. L. R. Dixon et al's R. H. Godfrey 1, sd 1300 ft. Gulf Production Co.'s C. M. Worsham 4, sd 700 ft. Nebraska Oil & Gas Co.'s W. H. Myers 1, sd 3360 ft. Scaling Oil Corp.'s Geo. Scaling 1, dr 2120 ft. Texland Production Co.'s Johnson 1, dr 400 ft.

COOKE COUNTY—Big Indian Oil Co.'s B. W. Davis 1, sd 3446 ft. Red River Drilling Co.'s Whaley Jones 1, fsh 1300 ft.

GRAYSON COUNTY—Zee Tex Oil & Dev. Co.'s G. W. Cannon 2, sd 3000 ft; Griffin 1, sd 2325 ft. W. R. Shankle et al's J. Marshall 1, dk.

MONTAGUE COUNTY—Bowie Chief Oil Co.'s C. H. Boedeker 1, sd 2725 ft. Boyd Oil Co.'s Mrs. M. H. Salmon 1, sd, estimated 75 bbls, td 902 ft. Gulf Production Co.'s M. E. Benton 1, rigging rotary. Mascho Oil Co.'s J. L. Howard 1, sd 3510 ft. The Texas Co.'s I. A. Gist 2-A, dr 440 ft.

THROCKMORTON COUNTY—Ashcraft et al's Polk County School Land 1, sd 1440 ft. Cragin et al's J. R. Burkhalter 1, dk. Graves & Burton's Reynolds Cattle Co. 1, sd 680 ft. Hale Tex Oil Co.'s Wm. Elliott 1, ur 725 ft. Houghland et al's Mrs. A. McKnight 1, dr 350 ft. Humble Oil & Refg. Co.'s Mrs. J. L. Stubblefield 1, dr 600 ft. King et al's A. P. Broiles 1, sd 250 ft. Larkin et al's H. E. Conger 1, ur 1020 ft. Shamrock Oil Co.'s Mrs. A. McKnight 1, sd 50 ft. Texhoma Oil & Refg. Co.'s Reynolds Cattle Co. 1, dr 650 ft. W. A. Whatley's E. T. Parrott 1, sd 475 ft; C. P. Todd 1, sd 822 ft on gas sand estimated 1,000,000 ft of gas. Young et al's Reynolds Cattle Co. 1, sd 311 ft.

WILBARGER COUNTY—Barker & Hamilton's A. P. Morris 1, dr 150 ft. Dill Farm Oil Co.'s W. B. Dill 1, dr 245 ft. Dumas & Ellis' W. H. Stephens 1, dr 660 ft. Herring et al's R. L. Castleberry 1, dr 845 ft. Noble Oil Co.'s W. T. Waggoner 1, dr 1650 ft. Pigg et al's W. H. Davis 1, sd 700 ft. South Veron Oil Co.'s G. W. Richardson 1, fsh 1250 ft. Wells & Guiberson's A. B. Wharton 1, dr 1540 ft. estimated 1,000,000 ft of gas at 1515 ft.

Texas Panhandle Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Childress County—		
Anderson et al's Givens 1	*	3190
Potter County—		
Producers & Refiners Co.'s L. Bivvens 1-A	¶15	3280

DRILLING REPORT

(Note.—The drilling report below does not show wells that are shut down indefinitely.)

CARSON COUNTY — American Refining Co.'s S. B. Burnett 1, dr 2890 ft; S. B. Burnett 2, fsh bit, td 2400 ft. J. Crosby's S. B. Burnett 1, dk. Culbertson Bros.' V. B. Armstrong 1, dr 2350 ft. Danciger Oil Co.'s S. B. Burnett 1, dr 1415 ft. J. Greenwood et al's S. B. Burnett 1, dr 1300 ft. Gulf Prod. Co.'s S. B. Burnett 4, dr 1310 ft; Burnett Estate 1, dr 640 ft. Olson Bros.' Burnett Estate 1, dk. W. W. Silk et al's S. B. Burnett 3, fsh 2900 ft. Skelly Oil Co.'s Burnett 1, dr 800 ft. The Texas Co.'s Mary C. Burnett 1, dr 2710 ft; Mary C. Burnett 2, sd 2725 ft; S. B. Burnett 4, dr 1675 ft. W. T. Waggoner's McConnell 1, sd 3110 ft.

COTTLE COUNTY—T. J. Woodley's A. C. Dulaney 1, dr 1750 ft.

GRAY COUNTY—W. H. Holmes et al's J. S. Morse 1, sd 3100 ft. The Texas Co.'s G. H. Saunders 1, r 2775 ft. Wilcox Oil Co.'s Combs & Worley 1, sd for storage, estimated 300 bbls., td 2930 ft.

HUTCHINSON COUNTY—R. E. Barnum's

THE FROST VERTICAL GENERATOR
Works Like a Top

Built for Oil Field Use

A machine that is designed so as to completely eliminate the possibility of steam getting to the bearings and causing them to wear.

The bearings on the Frost Vertical Generator will run indefinitely.

This insures long life, continuous service and low operating costs.

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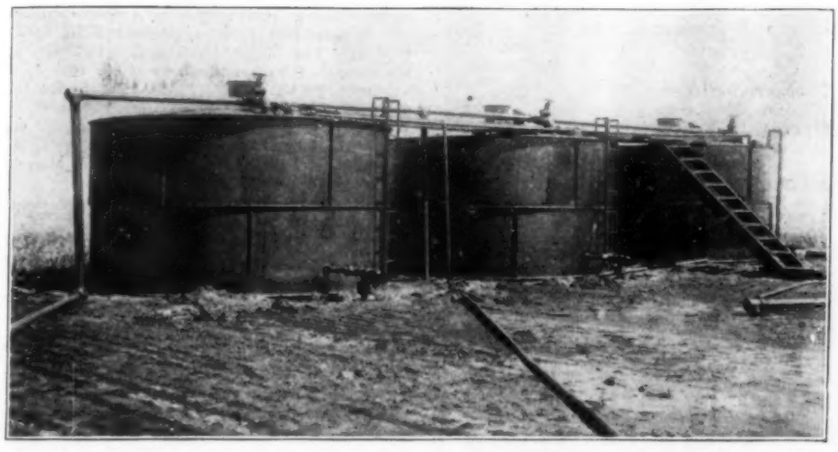
TULSA, OKLAHOMA

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



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Tanks That Pay for Themselves

PERFECTION tanks actually pay for themselves in a short time.

They are gas-tight, and have a specially designed relief valve to take care of both pressure and vacuum. There is absolutely no gaugeable loss from evaporation.

We make the claim that Perfection Vapor Pressure Tanks will maintain the original volume of oil, hold up the gravity and reduce the fire hazard to an almost negligible quantity.

Should there be any hesitancy on your part in equipping your lease, especially when it will not cost you a cent in the long run?

Tremendous Losses That Are Unnecessary

NIGHT and day, evaporation is robbing producers of their legitimate profits. Silently but surely it is always on the job. In many instances its toll represents the difference between profit and loss on your books. And the great pity of it all, these tremendous losses are unnecessary! Perfection Vapor Pressure tanks have solved the problem.

Years ago, Black, Sivalls and Bryson began experimenting on methods of stopping this great loss when evaporation was still considered a "necessary waste."

After years of work on the part of the best engineering brains obtainable, the Perfection Vapor Pressure tank was designed and placed on the market.

It is hardly necessary for us to make any claims for our product. The long list of producers scattered all over the country in every oil field is undeniable proof of its efficiency.

You had better take steps to get immediately acquainted with Perfection Vapor Pressure tanks. It won't cost you a cent to have our nearest representative figure on your lease requirements. We have a branch office in about every active field.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

Johnson Bros. 1, sd 2800 ft. Gulf Production Co.'s E. Cockrell 1, dr 510 ft; J. A. Whittenberg 1, dr 1500 ft. H. T. McGee et al's Smith Capers 1, sd 3175 ft. Panhandle Refining Co.'s J. J. Perkins 1, lcn. Prairie Oil & Gas Co.'s G. W. Deahl 1, dr 900 ft. Tex-O-Oil Co.'s Johnson 2, sd 700 ft. Twin Six Oil Co.'s W. L. Kingland 1, dr 40 ft. Western Enterprise Oil Co.'s Smith Capers 1, rebldg rig, td 1100 ft. Wilson et al's Whittenberg 1, set cas and cementing, td 2740 ft, making approximately 50,000,000 cubic feet of gas.

MOORE COUNTY—Producers & Refiners Co.'s Masterson 1, fsh 10-inch cas, td 1950 ft.

POTTER COUNTY—Amarillo Oil Co.'s J. C. Warrick 1, dr 260 ft. Producers & Refiners Co.'s Bivens 2-A, fsh 2580 ft.

ROBERTS COUNTY—Big Bend Oil Co.'s P. C. Ledrick 1, sd 240 ft.

WHEELER COUNTY—Cosden & Schenck's C. C. George 1, dr 2250 ft. Mid Continent Oil Synd.'s Ember 1, sd 440 ft. W. D. Shedden's B. F. Westmoreland 1, dr 420 ft. H. C. Tyrell et al's F. E. Sheldon 1, sd 2120 ft. Union Pet. & Supply Co.'s O. T. Nicholson 1, sd 700 ft. J. Whittington's Williams & Laycock 1, dr 2190 ft. E. L. Woodley's D. S. Bowers 1, set cas 1355 ft.

Coastal Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Wharton County—		
Gulf Prod. Co.'s Felder 1.....	* 2100	

DRILLING REPORT

ANGELINA COUNTY—Paggi Bros.' Henderson-Hunt 1, about 12 miles east of Lufkin, tested oil at 500 ft, dr at 605 ft.

AUSTIN COUNTY—W. W. Johnson and H. R. Carroll's San Felipe De Austin Townsite Outlot 16, dr around 2150 ft.

BRAZORIA COUNTY—Associated Oil Co.'s Perry 1, 2 miles east of Clute, sd at 4351 ft while moving in heavy rig. Sinclair Oil & Gas Co.'s Perry 1, at Stratton Ridge, dr at 1106 ft. Quick Dev. Synd.'s Boggs 1, Stratton Ridge, sd at 4350 ft.

CHAMBERS COUNTY—The Kirby Petroleum Co. and Mills-Bennett's Amanda-McKinney 1, southeast side of Barbers Hill, dr at 1200 ft. The Texas Co.'s Kirby Pet. Co. 1, 1 mile east of Barbers Hill, dr at 875 ft.

FORT BEND COUNTY — Pathfinder Oil Co.'s Davis Trustee 1. 7 miles northeast of Damon Mound, sd at 1000 ft; 2, sd at 600 ft; 3, dr around 900 ft. Rycade Oil Corp.'s B. Wisdom 1, 7 miles southeast of Damon Mound, dr at 250 ft.

GALVESTON COUNTY—Gulf Prod. Co.'s Geo. E. Smith 1, at High Island, rigging up.

GONZALES COUNTY — Bryan & James' Billings 1, southeast corner of the Peter Winn league, near Smiley, set screen at 985 ft. Hindman & Mitchell's Morgan 1, 11 miles southwest of Gonzales, dr about 500 ft.

GRIMES COUNTY—L. F. McCausland et al's Dodd 1, 3 miles west of Iola, dr about 360 ft.

HARRIS COUNTY—Texas Exploration Co.'s Warren 17, at Hockley, milling out casing around 2650 ft; Warren 19, dr at 350 ft. The Dome Dev. & Pet. Co.'s Chachere 1, at Piney Point, sd below 700 ft; Schneider 1, skidded dk to new lcn. Trinity Mining & Copper Co.'s Mueschke 1, Wm. Koihn sur, at West Field, sd at 2200 ft.

JACKSON COUNTY—Vanderbilt Pet. Co.'s Seliner 1, near Vanderbilt, dr at 1550 ft.

LIBERTY COUNTY—Gulf Prod. Co.'s H. C. Gatlin 1, 10 miles from Devers, dr 1650 ft. Quick Dev. Synd.'s Peeler 3, at Fairchild Hill, sd at 3003 ft.

MATAGORDA COUNTY—Gulf Prod. Co.'s Caney Cattle Co. 1, near Sargent, dr 670 ft. Rycade Oil Corp.'s Sisk 1, at Markham, dr at 1528 ft; Myers 2, at Markham, dr at 1760 ft.

SAN JACINTO COUNTY—B. S. Jones et al's Bledsoe 1, 1 and ¼ miles south of Shepard, sd.

WASHINGTON COUNTY—R. E. Pennington et al's Fitzsimmons 1, 7 miles southwest of Brenham, oil and gas showings at about 1500 ft. Running string of tubing with packer to make flow line.

WHARTON COUNTY—Gulf Prod. Co.'s Felder 2, near Boling, rigging up.

San Antonio District Wildcats

COMPLETION

Company, Well, Location—	Initial Production Bbls.	Depth
Jim Hogg County—		
Henne-Winch-Farris' J. R. Fariss 2 ¶56		

DRILLING REPORT

ATASCOSA COUNTY—DeLange-Eiser Co.'s No. 2 Tom, resetting 6-inch cas at 3000 ft.

DUVAL COUNTY—Union Sulphur Co.'s Tinney 1, dr below 600 ft. Mirando Oil Co.'s No. 14, set casing at 1525 ft. Iowa-Texas-Oklahoma Synd.'s Peters 1, Sur. 789, r to 2047 ft. Cain & Smith's No. 2, lcn. Hill-Pierce Corp.'s Martinez 1, dr.

LIVE OAK COUNTY — Grubstake Investment Assn.'s J. M. Nichols 3, set 12½-inch casing. McCoy's Rose Murray 3, lcn.

McMULLEN COUNTY — San Balt Pet. Co.'s Stitz 7, cored at 687 ft; 8, dk. Scharbauer & Hoad's No. 6, dr. Southern Natural Gas Co.'s No. 9, dk. Wilkerson-Lightfoot's Lark 2, set casing. Coquet et al's Hicks 1, dr. Pioneer Consolidated Pet. Co.'s Martin 1, dr. Kepley, Carl & Anglin's Walsh 1, rigging up. Grubstake Investment Assn.'s Joe T. Callihan 2, fsh; 3, cemented casing. Three Rivers Oil Co.'s Callihan 2, blk 50, dr in; 3, blk. 51, cemented. George Pickett's Jacob 1, dr below 1100 ft. Watkins-Hill's Lark 1, dr below 1100 ft. M. S. Holliday's Stitz 1, cemented casing. Everett & Adams' John Stitz 2, dr 2100 ft.

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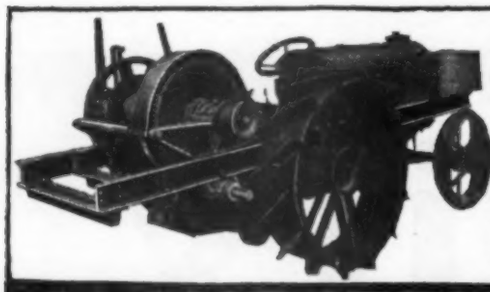

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Louisiana Wildcats

Company, Well, Location—	Initial Production Bbls.	Depth
COMPLETIONS		
Lincoln Parish—		
McCauldin et al's Hudspeth 1, 28-20-4w	*	2205
Union Parish——		
Gulf Ref. Co.'s Security Trust 2, 24-23-1w	*	2525

DRILLING REPORT

BOSSIER PARISH—Armistead et al's Bernstein 1, 11-20-13, sd 1180 ft. Atlantic Oil Prod. Co.'s Bodcau Lumber 1, 24-23-1w, flowing oil and sw 2716 ft. Collins et al's Hamilton 1, 16-20-11, dr 1875 ft. Skannal et al's Smith 1, 24-17-12, testing 2474 ft.

CADDO PARISH——Adams et al's Johnson 1, 16-14-16, rig. Ark-Caddo Oil Co.'s Nickerson 1, 30-19-15, sd 2450 ft. Brewer & Sewell's Sharp 1, 10-18-16, dk. Caddo-Western Gas Co.'s Gardner-Blades 1, 2-16-15, set 6-inch 2668 ft. Collins et al's Levy 1, 23-19-14, dr 1615 ft. Crude Oil Co.'s Alexander-Ledbetter 1, 27-16-14, sd 3655 ft. Louisiana-Texas Community Oil Co.'s McCoy 1, 16-23-16, sd 2890 ft. Rowe-Daniels Synd.'s Rhodessa O. & L. Co. 1, 22-23-16, rig.

CALDWELL PARISH—Culver et al's Culver 1, 21-14-4e, sd 2510 ft.

CLAIBORNE PARISH—Arnet et al's Calhoun 1, 26-21-6, fsh 1460 ft. Black O. & G. Co.'s Aubrey 1, 20-21-8, to set 6-inch 1450 ft. Dixie Oil Co.'s Easter 1, 20-20-7, dr 1560 ft. El Dorado Chief O. & G. Co.'s Gandy 1, 36-22-7, dr 3200 ft. Forrest Oil Co.'s Fields 1, 22-19-5, sd 2000 ft. Standard Oil Co.'s Lloyd 1, 10-20-5w, dr 2415 ft. Triangle Drilling Co.'s Ferguson 1, 5-21-5, sd 2205 ft.

DE SOTO PARISH—Greyhound Synd.'s Pollack 1, 36-11-14, rig. Tarver et al's Matthews 3, 2-12-11, dr 620 ft. Ulrey et al's Frost-Johnson 1, 3-11-15, dr 2815 ft.

EVANGELINE PARISH—Invincible Oil Co.'s Manuel 1, 35-5-2, dk.

GRANT PARISH—Grant Parish Pet. Co.'s Ball 1, 1-7-1w, dr 1150 ft.

LA SALLE PARISH—Bur-Ban Oil Co.'s Urania 2, 21-11-2e, to set 8-inch 767 ft. Gulf Ref. Co.'s Urania Lumber 1, 22-10-2e, lcn. Stovall Drilling Co.'s Louisiana-Central Lumber 2, 27-10-2e, set 6-inch 1332 ft. Urania Pet. Co.'s Urania 4, 20-10-2e, dr 150 ft.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, sd 1408 ft.

RED RIVER PARISH—LeGrande et al's Fee 3, 2-14-12, sd 1736 ft.

UNION PARISH—Bob Allison's Frost-Johnson 1, 15-23-1w, dr 1720 ft. Cargile et al's Heard 1, 21-21-3w, dr 2165 ft. Costello et al's Nelson 1, 17-123-1w, dk. Davidson & Palmer's Frost-Johnson A-1, 17-23-1e, sd 77 ft. Johnson et al's Pryor 1, 35-22-2w, to set 8-inch 1385 ft. Love & Clark's Frost-Johnson 1, 7-23-1e, sd 2263 ft. Neddo Pet. Invest. Corp.'s Smith 2, 2-23-3w, sd 2490 ft. Palmer et al's Frost-Johnson 1, 18-23-1e, rig.

WEBSTER PARISH—Morefield & Tanner's Pine Woods 2, 2-22-11, dr 970 ft. Olmstead et al's Hudson 1, 17-19-10, sd 800 ft. Smitherman & McDonald's Boucher 1, 21-23-11, plugged to 2703 ft. Stack & Egger's Bible 1, 8-20-9, set 8-inch 1127 ft.

WEST CARROLL PARISH—Arkansas Fuel Oil Co.'s Fiske 1, 8-21-10e, drill stem stuck 1065 ft. Orion Oil Co.'s Bain Wagon 1, 23-23-10e, set 8-inch 2884 ft.

Arkansas Wildcats

CALHOUN COUNTY—Arkansas Fuel Oil Co.'s Childress 2, 1-15-15, to set 8-inch 2100 ft.

CLEVELAND COUNTY — Markle Synd.'s Plummer 1, 22-9-10, sd 2350 ft.

COLUMBIA COUNTY—Ark-Oil Co.'s Fullenwilder 1, 12-17-22, dr 2440 ft. Brown et al's Robinson 1, 23-18-23, sd 3034 ft. Heath

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DALLAS COUNTY—Durr (Conway) et al's Riggs-Matlock 1, 33-8-15, to resume 1756 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sw 2082 ft. King & Wilson's Trotter 1, 12-13-6, sd 900 ft. Ratcliff et al's Spencer 1, 21-14-7, sd 1650 ft. Rhodes et al's Harris 1, 5-13-8, sd 1610 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Arnold & Hills' Meeks 1, 8-4-12, dk. Haley & Evans' Pike 1, 8-6-11, sd 50 ft. The Texas Co.'s Chicago L. & T. Co. 3, 18-6-13, rig.

HEMPSTEAD COUNTY — Dudney et al's Spates 1, 19-12-27, sd 2000 ft. Hope Columbus Oil Co.'s King 2, 24-11-26, to pull cas 2156 ft. Martin et al's Adams 1, 36-12-27, fsh 2700 ft. Meyer et al's Nicholls 1, 17-11-25, sd 1860 ft.

LA FAYETTE COUNTY — Ken-Saw Pet. Co.'s Red River Lumber 2, 3-20-24, dk.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 16-13-29, dr 2725 ft. Grote et al's Allen 1, 2-13-29, dr 2755 ft. Johnson et al's Hawkins 1, 10-11-31, dr 1360 ft. Red River Valley Oil Co.'s Taylor 1, 29-13-29, sd 2790 ft. Sullivan O. & G. Co.'s Ludlow 2, 32-11-32, sd 2600 ft.

MILLER COUNTY—Kress et al's Thompson 1, 33-14-28, sd 917 ft.

NEVADA COUNTY—Dudley et al's Grayson-McLeod 1, 32-11-21, dr 2200 ft. T. Walker Murray's Eaves 1, 11-12-23, showed dead oil 1040 ft. Miller-Burnham-Hawley Synd.'s Perry 1, 12-15-22, sd 1020 ft. Prescott Oil Co.'s Henry 3, 10-12-20, sd 1000 ft.

OUACHITA COUNTY—Dee et al's Criner 1, 21-15-19, dk.

UNION COUNTY—Berry et al's Union Saw Mill 1, 14-19-11, sd 875 ft. Bondurant et al's Turbeville 1, 9-18-12, sd 2150 ft. Harrell Trust's Teele 1, 11-19-12, dr 2700 ft. Humble O. & R. Co.'s (Walber) Cordell 1, 1-18-14, sdtr 8-inch 2204 ft. Jeter Trust's Burnside 1, 33-17-13, sd 3055 ft. Lemond et al's Terrell 1, 22-18-14, dk. Starke et al's Little 1, 21-19-12, dr 2540 ft. Traffic Oil Co.'s Goodwin 1, 20-16-14, sd 3026 ft.

Oklahoma Wildcats

ALFALFA COUNTY—McGuinnis & Wards' Watts 1, C NE SW SE 21-27-10w, sd 3010 ft, hfw. Armstrong, Henley & Piffless' Turnbull 1, C NW SE NW 23-24-11w, sd 50 ft.

ATOKA COUNTY—McPhearson et al's Wild 1, SWc NW 7-2-9, sd 4105 ft. Henson et al's Dabney 1, C SE NW 17-4-11, dr 1375 ft. J. P. Torrence et al's Fee 1, SWc NE 1-2-9, sd 1350 ft. Wapanucka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1700 ft.

BECKHAM COUNTY — Lewis & Co.'s Burkhalter 1, C NE NW 6-9-24w, sd 2750 ft. Nash & Grimes' No. 1, SEc NW 35-9-25w, dr 2854 ft.

BLAINE COUNTY — Meyers et al's Chronister 1, SEc NW NW NE 7-18-15w, sd 965 ft.

BRYAN COUNTY—Lyons et al's Combs 1, SEc SW NW NE 11-6-9, sd 400 ft. Alexander's Hampton 1, SEc NE 26-7-11, sd 500 ft.

CANADIAN COUNTY—Ponca Oil & Gas Co.'s Dawson 1, NEc 34-13-9w, sd 2640 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 160 ft.

CLEVELAND COUNTY — Garr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft. Turman Oil Co.'s Hager 1, NEc NW 23-10-1, rig.

CUSTER COUNTY—Hoover Oil Co.'s No. 1, NWc SE 34-13-14, sd 2510 ft.

COAL COUNTY—Basie Oil Co.'s Heck 1, SEc 18-2-9, rig. Bearman et al's Payte 1, SWc NW NE 32-2-9, sd 2780 ft. Guy Vaughin's Nichols 1, SWc 1-1-11, rig. Douglas Oil Co.'s Johnson 1, C NW SW 12-5-9, dr 1225 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4w, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2300 ft. Phillips Pet. Co.'s Riding 1, NEc SE NW 29-29-4w, sd 2848 ft, hfw. Frank Travis et al's Fuss 1, SWc NW NW 3-27-4w, sd 700 ft.

GREER COUNTY—Neal et al's Johnson 1, SEc NE NW 3-7-22w, dr 1108 ft. Boss & Terrills' Van Victor 1, C SW SW 4-3-22w, lcn.

HUGHES COUNTY—W. J. Thurber's Fos-1, SEc SW SE 5-7-8, plug back to 1808 ft. Furhamn Pet. Co.'s O'Miller 1, SWc SE SE 5-7-9, dr 2310 ft.

JACKSON COUNTY—J. D. Wade's No. 1, C SW NW 15-1-23, fsh 2810 ft. J. R. Abernathy's Snodgrass 1, C NW NW 15-1-23w, sd 622 ft.

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JEFFERSON COUNTY — Shawver et al's Anderson 1, SEc NE 31-4-8w, sd 1200 ft. Landis et al's Standfield 1, SEc 33-7-6w, sd 1150 ft. Roy Johnson's Mullen 1, NEc NW 9-4-4w, rig. Tarkington & Kelsey's Cowden 1, C NW NE 21-5-6w, dr 100 ft.

JOHNSON COUNTY — Washita O. & G. Co.'s Trootes 1, C SE SE NE 7-4-4, dr 2180 ft. United "8" Oil Co.'s Holden 1, NWc SW NW 36-5-6, dr 2260 ft.

KAY COUNTY—Otstot Dev. Co.'s Rohos 2, C NE SE 3-27-1w, sd 3438 ft. Alcorn Oil Co.'s North 1, NEc NW NE 12-26-2w, r 2260 ft. Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, r 2460 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16, sd 1548 ft. Aubyme Oil Co.'s No. 1, SWc NE 3-7-17w, dr 740 ft.

LINCOLN COUNTY — Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, r 3280 ft. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, r 1855 ft. Douglas Oil Co.'s Ewing 1, 7-13-3. dr 2280 ft. J. C. Cook's Richardson 1, SWc NE SW 8-12-5, r 1125 ft. Eugene Costa et al's Dodrill 1, SEc NW 26-12-2, sd 1476 ft.

LOGAN COUNTY — Buford-Brim Oil Co.'s Newman 1, NWc NE 32-19-3w, dr 2345 ft. Okla. Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Ass'n Moore 1, NWc SE SE 28-18-4w, fsh 1620 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-7-4w, sd. Haley & Pioneer Pet. Co.'s Quier 1, SWc SE 33-18-3w, rig rebuilt. Pluto O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, sd 750 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, dr 390 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1e, dr 1180 ft.

LOVE COUNTY—Wichenheiser et al's Beal 1, NEc SE 13-5-3, dr 3000 ft. Driller Syndicate Oil Co.'s Wilson 1, NWc NE 11-7-2, sd 2830 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 36-22-14w, rig. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, r 2640 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, dr 995 ft.

MARSHALL COUNTY—P. & H. Oil Co.'s Franklin 1, C E L NW NE SW 34-6-7, sd 1680 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 29-6-3, spd and sd.

OKLAHOMA COUNTY — Firestone Oil Co.'s School 1, NWc SE 36-11-3, dr 3565 ft. Big Three Oil Co.'s Wild 1, SWc NE 31-11-2, sd 1390 ft.

PONTOTOC COUNTY—Harper et al's Dener 1, NWc SE SE 19-5-7, fsh 2100 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. Roy Carter's Burk 2, NEc SE SE 32-5-5, sd 2960 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, dr 1150 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. Hughes et al's Falkner 1, C SW NE 28-4-7, sd 1035 ft. Galloway et al's Hays 1, NEc SE NW SW 15-3-6, dr 415 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 13-10-2, dr 2610 ft. Magnolia Pet. Co.'s Brandenburg 1, C SE SW NW 18-7-5, pb. to 3590 ft. Davie Detrick's McGahey 1, SEc 10-6-2, fsh 3420 ft. H. G. Guinnup et al's Floyd 1, SWc SE 13-11-3, dr 3590 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, dr 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-5, dr 2930 ft. McMann Oil Co.'s Neghan 1, SWc NW 12-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE NE 9-5-3, sd 3510 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGER MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 15-15-26w, dr 2550 ft. Colorado Oil Co.'s No. 1, C NE NE NE 32-16-22w, crooked hole 2376 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3036 ft.

SEMINOLE COUNTY — Maxwell et al's Charty 1, C NE NW 33-6-6, r 1600 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, run 6-inch 2220 ft. T. B. Slick's Sanny 1, 19-6-7, dr 3075 ft. Wm. McDougal's Dindy 1, C SW SW 20-6-7, set 5-inch to 3120 ft.

TILLMAN COUNTY—A. L. Spears' Couch 1, NWc NE SW 10-4-10w, sd 1590 ft.

WASHITA COUNTY — R. B. Hartman's Montgomery 1, NEc SW 32-9-17w, dr 3386 ft. McCoy et al's Pretter No. 1, C SW SW NE 9-8-15w, sd 3035 ft. Sun Ray Oil Co.'s Rice 1, SEc 33-8-18w, dr 861 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

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Kansas Wildcats

DRILLING REPORT

BARBER COUNTY—R. B. Brown's No. 1, NWc SW NE 33-30-14w, fsh 3520 ft; Elsa 1, SWc 27-32-14w, rig.

BARTON COUNTY — Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's No. 1, NWc 21-18-12w, sd 1220 ft. H. W. Nieswanger Wrinker 1, SW SE 2-19-12w, sd 1103 ft. Mountain States Oil & Gas Co.'s No. 1, SEc NE 22-18-13w, dr 3140 ft. Jasper & Becahka's Schauf 1, SEc NW 11-16-12w, dr 2016 ft. Huffine et al's Smith 1, C NE SW 21-19-12w, sd 1605 ft. Streeter & Stearns' Brown 1, NEc SW 21-19-12w, dr 2425 ft.

COFFEE COUNTY — Sunbeam Pet. Co.'s Andrews 1, NWc NE 33-20-15, rig. Thad O'Day's Allen 1, NWc SE 13-21-15, sd 900 ft.

CLARK COUNTY — Watcham O. & G. Co.'s Morrison 1, SEc NE NE 2-32-21w, dr 3975 ft.

CLOUD COUNTY—Livingston et al's Murdock 1, NEc 7-6-4w, sd 365 ft.

ELLIS COUNTY—J. Alan Harvey's Polifka 1, SEc NW NE 18-13-17w, dr 1260 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft; Foster 1, NEc SW 30-12-6, sd 2000 ft.

HARPER COUNTY—D. P. Fleegers' Nettingham 1, SWc 14-33-9w, dr 2600 ft.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

GOVE COUNTY—Keys Bros. & Marine's Unknown 1, NWc SE 2-11-26w, lcn; Unknown 1, NWc SW 23-13-26w, lcn.

JEFFERSON COUNTY — Northern Counties' Edwards 1, SEc NW NW 13-9-19, fsh 3400 ft.

KINGMAN COUNTY—Hale et al's Garner 1, SWc NW 34-27-7, sd 2543 ft.

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LINCOLN COUNTY — Trees Oil Co.'s Kohler 1, SEc 36-11-10w, dr 2840 ft. Turman Oil Co.'s Dohl 1, SEc NW 25-12-10w, dr 2845 ft. Berry & Rosenthal's Lambert 1, C NW 34-12-10w, spd. Amerada Pet. Co.'s Crawford 1, NEc SW SE 16-11-7w, dr 1200 ft. Equity Oil Co.'s Jellison 1, NWc SE 19-13-9w, dr 444 ft.

NEMAHA COUNTY—Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 3250 ft.

MITCHELL COUNTY — Alcorn Oil Co.'s Beeder 1, NEc 10-9-8w, dr 1020 ft.

OSBORNE COUNTY—Liggett et al's Worley 1, NWc NW 34-10-15w, co 3182 ft. Delhi Oil Co.'s Forman 1, SWc SW 30-10-11w, r 3250 ft.

OSAGE COUNTY — Rogers & Bittles' Bertha 1, SEc NW 22-17-16, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Moyer et al's Williams 1, NEc SW NW 12-18-14, rig.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greischabert 1, SWc SE SE SW 31-9-12, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—H. T. Proctor's Taylor 1, NWc 15-21-10w, spd & sd. Rino Oil Co.'s Dees 1, SEc SW NW 35-19-6w, dr 3150 ft. Emerson Casey's Bush 1, NEc 7-20-16w, sd 3506 ft. Stamey et al's Barnes 1, SEc NE 21-20-6w, dr 1850 ft.

RILEY COUNTY—Richie et al's Boyle 1, SEc 36-7-4, sd 2601 ft. Walton Oil Co.'s No. 1, NWc 20-10-12, sd 1600 ft. Pawnee Oil Co.'s Marks 1, SWc NE NW 26-10-6, sd 1700 ft.

RUSSELL COUNTY—Valerius O. & G. Co.'s Phillips 1, SWc 3-13-13w, dr 3340 ft. Merriam et al's Murphy 1, C SW 11-12-12w, sd 2600 ft. P. & R. Corp.'s Haise 1, NWc SE 24-12-15w, dr 2560 ft. Patton et al's Walbridge 1, SWc NE 4-13-13w, run 8 inch to 2410 ft. Amerada Pet. Corp.'s Milke 1, SWc SE SW 20-12-15w, dr 2900 ft. White Eagle O. & R. Co.'s Dodge 1, SEc SW SW 29-11-15w, fsh 2530 ft. Pomeroy et al's Cooper 1, SEc 33-12-11w, dr 820 ft. C. E. Suppes et al's Miller 1, SWc 25-12-12w, lcn. Alcorn Oil Co.'s Seller 1, SEc 36-15-12w, r 1248 ft. J. Garfields Buels' Diessroth 1, SEc NE SW 1-14-11w, dr 615 ft.

SEWARD COUNTY — C. T. Dev. Co.'s Woods 1, NWc SE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Selaey 1, NEc NW 2-33-33, sd 2427 ft.

SUMNER COUNTY — Champlin Ref Co.'s Haskett 1, Sec 34-10-1w, dr 3635 ft.

TREGO COUNTY—Morton et al's Kyeer 1, C E½ 9-11-22w, sd 1406 ft. Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1700 ft; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft. Keyes Bros. & Marines' Davis 1, NEc SW 16-11-24, dr 2060 ft.

WASHINGTON COUNTY—Barnes O. & G. Co.'s Wickham 1, SEc SW 9-5-5, sd 1305 ft.

WOODSON COUNTY — Equity Oil Co.'s Soloman 1, SWc NE NW 30-26-17, fsh 3210 ft.

New Graver Tank Requires Two Holes for One Leak

Graver Corporation, East Chicago, Indiana, has issued a folder describing its new tank, "the tank that requires two holes to make one leak."

The tank is called the "RIOW," and derives its name from its construction, riveted and inside and outside welded. The seams are closed on both the inside and outside edges, making necessary a hole in both welds before a leak can develop.

Copies of the folder may be obtained by writing the Graver Corporation, East Chicago, Indiana.

Building a Refinery or Natural Gasoline Plant?

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JEFFERSON COUNTY — Shawver et al's Anderson 1, SEc NE 31-4-8w, sd 1200 ft. Landis et al's Standfield 1, SEc 33-7-6w, sd 1150 ft. Roy Johnson's Mullen 1, NEc NW 9-4-4w, rig. Tarkington & Kelsey's Cowden 1, C NW NE 21-5-6w, dr 100 ft.

JOHNSON COUNTY — Washita O. & G. Co.'s Trootes 1, C SE SE NE 7-4-4, dr 2180 ft. United "8" Oil Co.'s Holden 1, NWc SW NW 36-5-6, dr 2260 ft.

KAY COUNTY—Otstot Dev. Co.'s Rohos 2, C NE SE 3-27-1w, sd 3438 ft. Alcorn Oil Co.'s North 1, NEc NW NE 12-26-2w, r 2260 ft. Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, r 2460 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16, sd 1548 ft. Aubyme Oil Co.'s No. 1, SWc NE 3-7-17w, dr 740 ft.

LINCOLN COUNTY — Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, r 3280 ft. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, r 1855 ft. Douglas Oil Co.'s Ewing 1, 7-13-3. dr 2280 ft. J. C. Cook's Richardson 1, SWc NE SW 8-12-5, r 1125 ft. Eugene Costa et al's Dodrill 1, SEc NW 26-12-2, sd 1476 ft.

LOGAN COUNTY — Buford-Brim Oil Co.'s Newman 1, NWc NE 32-19-3w, dr 2345 ft. Okla. Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Ass'n Moore 1, NWc SE SE 28-18-4w, fsh 1620 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-7-4w, sd. Haley & Pioneer Pet. Co.'s Quier 1, SWc SE 33-18-3w, rig rebuilt. Pluto O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, sd 750 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, dr 390 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1e, dr 1180 ft.

LOVE COUNTY—Wichenheiser et al's Beal 1, NEc SE 13-5-3, dr 3000 ft. Driller Syndicate Oil Co.'s Wilson 1, NWc NE 11-7-2, sd 2830 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 36-22-14w, rig. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, r 2640 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, dr 995 ft.

MARSHALL COUNTY—P. & H. Oil Co.'s Franklin 1, C E L NW NE SW 34-6-7, sd 1680 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 29-6-3, spd and sd.

OKLAHOMA COUNTY — Firestone Oil Co.'s School 1, NWc SE 36-11-3, dr 3565 ft. Big Three Oil Co.'s Wild 1, SWc NE 31-11-2, sd 1390 ft.

PONTOTOC COUNTY—Harper et al's Dener 1, NWc SE SE 19-5-7, fsh 2100 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. Roy Carter's Burk 2, NEc SE SE 32-5-5, sd 2960 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, dr 1150 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. Hughes et al's Falkner 1, C SW NE 28-4-7, sd 1035 ft. Galloway et al's Hays 1, NEc SE NW SW 15-3-6, dr 415 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 13-10-2, dr 2610 ft. Magnolia Pet. Co.'s Brandenburg 1, C SE SW NW 18-7-5, pb to 3590 ft. Davie Detrick's McGahey 1, SEc 10-6-2, fsh 3420 ft. H. G. Guinnup et al's Floyd 1, SWc SE 13-11-3, dr 3590 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, dr 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-5, dr 2930 ft. McMann Oil Co.'s Neghan 1, SWc NW 12-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE NE 9-5-3, sd 3510 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGER MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 15-15-26w, dr 2550 ft. Colorado Oil Co.'s No. 1, C NE NE NE 32-16-22w, crooked hole 2376 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3036 ft.

SEMINOLE COUNTY — Maxwell et al's Charty 1, C NE NW 33-6-6, r 1600 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, run 6-inch 2220 ft. T. B. Slick's Sanny 1, 19-6-7, dr 3075 ft. Wm. McDougal's Dindy 1, C SW SW 20-6-7, set 5-inch to 3120 ft.

TILLMAN COUNTY—A. L. Spears' Couch 1, NWc NE SW 10-4-10w, sd 1590 ft.

WASHITA COUNTY — R. B. Hartman's Montgomery 1, NEc SW 32-9-17w, dr 3386 ft. McCoy et al's Pretter No. 1, C SW SW NE 9-8-15w, sd 3035 ft. Sun Ray Oil Co.'s Rice 1, SEc 33-8-18w, dr 861 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

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TEXAS OIL MAPS

County and District
Catalog on Application

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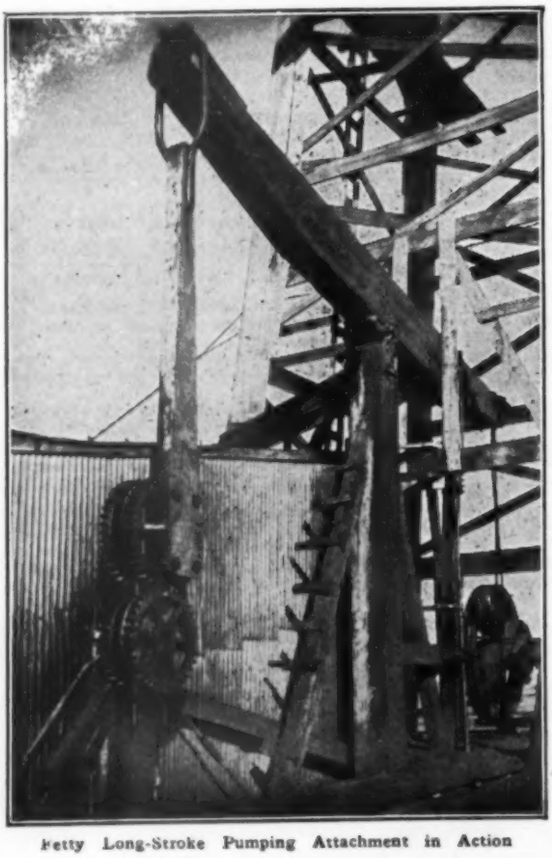
Copies of the folder may be obtained by writing the Graver Corporation, East Chicago, Indiana.

More Oil from the Same Well at Less Cost

This Can Be Done With a Fetty Long Stroke Pumping Attachment



Fetty Long-Stroke Pumping Attachment in Action

By installing the Fetty Long-Stroke Pumping Attachment some of the largest companies in the field have increased production from pumping wells and at the same time appreciably reduced operating expenses and brought about a saving in money.

More oil from the same well at less cost. That's added income.

Geared 2 1/9 to 1, the Fetty Attachment will handle more fluid, requires less power to operate, gives an even stroke and reduces rod trouble, in some instances almost entirely eliminating it.

Built to handle a 5-foot stroke with ease, the Fetty Long-Stroke Pumping Attachment is especially recommended to handle wells with 4-inch and 5-inch tubing. Will handle any size tubing.

Now being used by—

Sinclair Oil & Gas Co.
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The Pure Oil Co.
The National Refining Co.
Tri State Oil Co.
Owenwood Oil Corporation.

When properly installed the Fetty Long-Stroke Pumping Attachment is virtually fool-proof.

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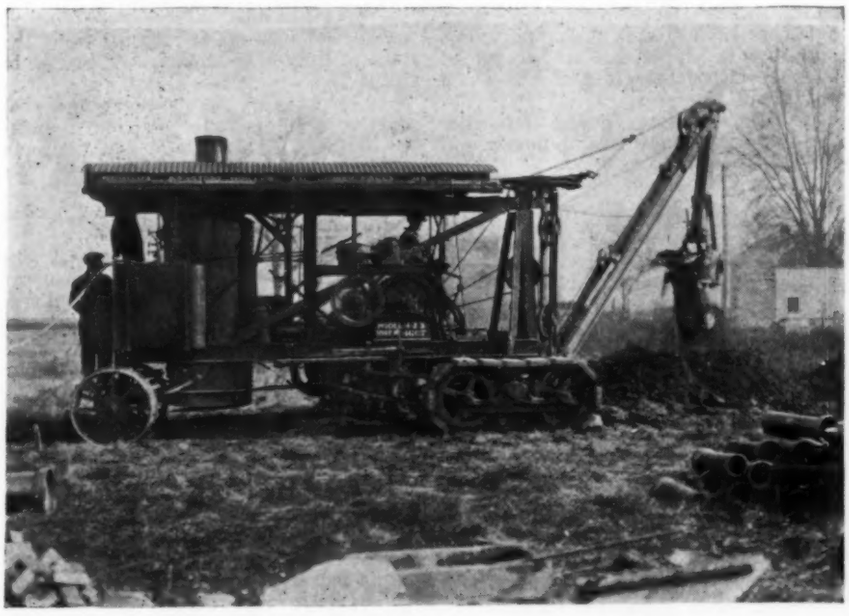


Keystone Driller Company's Model 4-24 Traction Excavator.

Traction Excavator Gives Good Service and Long Wear

A traction excavator that offers several combined features of excellency is being marketed by the Keystone Driller Company, Beaver Falls, Pennsylvania.

Model 4-24, illustrated herewith, weighs 15 tons as a wheel traction and 16 tons mounted on front crawlers. It is regularly equipped with a 40 by 86-inch boiler, either vertical fire tube or cross tubular type. On the front crawler machine, the sills are extended 22 inches to accomodate the steering wheels at the boiler end. The machine can be furnished with electric motor or gas engine drive when so desired.

A drop-bottom, pull-stroke ditcher bucket is a part of the equipment of the excavator. The bottom of this bucket is hinged at the teeth and latched at the outer end. When the bottom is dropped it swings far enough on its hinge-axis to aid in expelling any material that may be stuck in the bucket and in cleaning the sides. The bucket is made in seven widths: 14, 18, 24, 30, 36, 42 and 54 inches wide. Even the narrowest widths are self-cleaning in sticky material. The ⅝ yards skimmer bucket is also furnished with the outfit. This bucket has an exceptionally long horizontal crowd, 14 feet. Neither bucket is expensive and it is possible to change from one to the other in a few minutes time.

By the use of a boom-extension, the machine can be arranged to handle a half-yard clamshell bucket.

The crawler tread is mounted under the digging end of the machine, which of course is subject to the greatest weight, strains and digging stresses. So equipped the machine can be navigated over any material of sufficient stability to carry a caterpillar traction.

Further information may be secured from the Keystone Driller Company, Beaver Falls, Pennsylvania.

Union Company Starts Publication

Volume 1 of The Ideal, a publication just being started by the Union Tool Company of Torrance, Calif., has just come from the press. Its editor is Robert Berry, and P. N. Boggs, chairman of the board, has this to say about the booklet: "The duty of The Ideal shall be to present through its columns matters of interest to the oil man, rather than merely serving as a publication for ourselves. Articles on development, production, oil field engineering and allied subjects will be published from time to time, with the wish that they may prove of material help to operators and producers."

Three Speed Draw Works For Rotary Equipment

Carrying out its policy of constant improvement in all oil field equipment manufactured by it, the Beaumont Iron Works Company announces a three speed draw works for rotary outfits.

This draw works is fitted with a third speed, or fast speed. It is arranged with the following speed ratios:

Assuming the line shaft to turn 100 revolutions on the slow speed, the drum shaft would turn 40 revolutions. On the second speed, with the line shaft speed turning 100 revolutions, the drum shaft will turn 60 revolutions. The third speed or fast speed, based on 100 revolutions of the line shaft will turn on the drum shaft 125 revolutions.

The two fast speeds are on the opposite side from the driller and are operated by a foot lever with coil springs for pulling the clutches out when the levers are released.

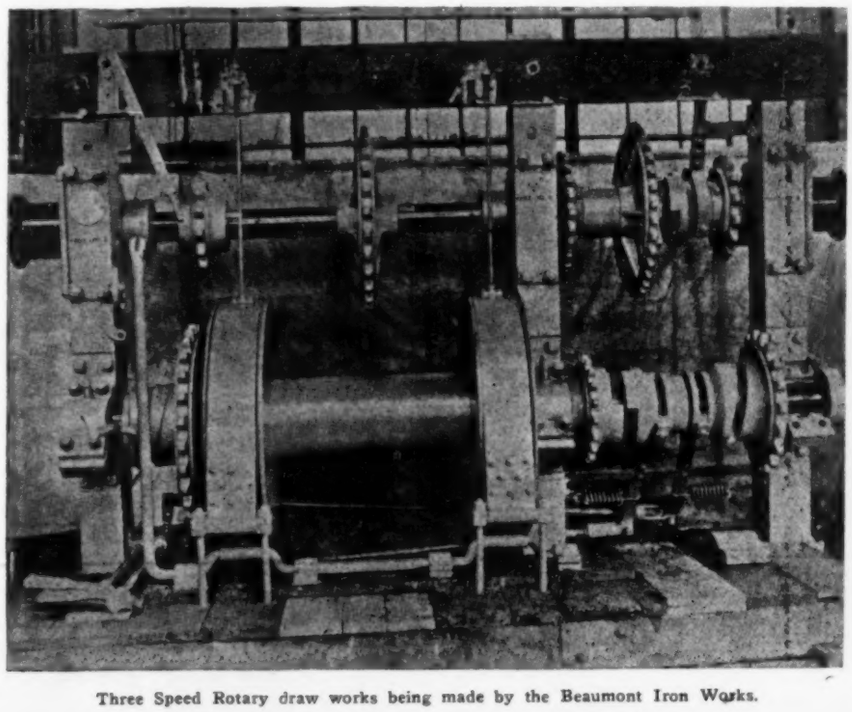
Shaft diameters are 5 15/16 inches.

All sprockets are made entirely of electric sast steel. All loose sprocekts are heavily bronze bushed and are provided with two systems of oiling. One system uses light oil and the other is arranged for an alemite system or heavy grease.

Posts opposite the cat heads on each side are equipped with a guard roller which prevents the lines chafing and also prevents cutting the posts.

Chain oilers on the right hand side of the draw works, in open boxes, oil the bearings on the shafts.

Further information may be obtained from the Beaumont Iron Works Company, Beaumont, Texas.



Three Speed Rotary draw works being made by the Beaumont Iron Works.

Mexico Becomes Importer of Crude Oil

(Continued from page 33)

fields declined from 225,000 barrels in January, to 171,000 barrels in December, or 24 per cent. The production of heavy oil increased from 170,000 barrels in January to 290,000 barrels in December, or over 70 per cent, this coming almost entirely from the Cacalilao area, which reached a daily maximum of 175,000 barrels in December.

The production from the Tehuantepec fields was hardly commercially important, aggregating about 600 barrels per day throughout the year.

Exports decreased during 1923, in keeping with production, and while a marked increase in heavy grades was noticeable a corresponding decrease in the lighter crudes took place. By far the greater volume of the light crude produced was treated in the local refineries. The exports during the year by grades was approximately as follows:

	Barrels
Light Crude	17,077,000*
Heavy Crude	63,605,000*
Fuel Oil	46,870,000
Distillates	8,607,000
Bunker Oil	6,955,000
	143,114,000

*See footnote (a) of Table 1.

The heaviest exporters were the Aguila-Corona group, with about 36,000,000 barrels; the Huasteca, 31,000,000 barrels, the Transcontinental, 15,000,000 barrels, the Gulf and Sinclair interests with 11,000,000 barrels each, and the Texas and East Coast with 8,000,000 barrels each. There were 23 companies exporting oil during the year, ten of which handled Panuco crude exclusively, seven light crude exclusively, and the balance exporting both grades of oil. Table 1 shows the exports by grades and destination.

Because of over production in the California fields, combined with the low cost of marine transportation and idle refining facilities in Mexico, the Dutch Shell interests imported from California fields into Tampico and Tuxpam during the year 4,167,000 barrels of 26 degrees to 27 degrees Be. oil, which was mixed with lower grade Mexican oil for refining purposes. This oil was shipped by the Shell Company of California and, in smaller quantities by the Union Oil Company; there were also about 135,000 barrels of gas oil imported from Texas ports.

Stocks Unchanged

There was no decided fluctuation in the amount of oil in storage in Mexico during the year, the stocks ranging from 18,000,000 to 23,000,000 barrels. The conditions January 1, 1923, and Jan. 1, 1924, were:

Oil in Storage in Mexico

	Jan. 1, 1923 U. S. Bbls.	Jan. 1, 1924 U. S. Bbls.
Light Crude	4,946,000	5,470,000
Heavy Crude	3,510,000	4,888,000
Fuel Oil	9,939,000	10,675,000
Distillates	1,050,000	1,480,000
Totals	19,445,000	22,513,000

During January, 1923, the companies having the greatest amount of oil in storage were the Aguila, with close to 6,000,000 barrels; the Huasteca, 4,000,000 barrels; the Corona,.2,000,000 barrels. The greatest volume of oil stored by each of these companies was topped crude or fuel oil.

The figures of domestic consumption, as derived from those of storage, exports, imports, and production, show a total of about 14,800,000 barrels of all grades. The large refineries were somewhat restricted in their operations by the crude supply, but an average of close to 160,000 barrels a day was run throughout the year.

An estimate of the crude and other grades run through the refineries in the year is as follows:

	Barrels
Light Crude	50,000,000
Heavy Crude	3,500,000
California Crude	4,000,000
Oil from Earthen Storage	2,500,000
Total	60,000,000

The refinery products may roughly be divided into 9,000,000 barrels of distillates and 51,000,000 barrels of fuel oil.

The price of light crude during 1923 was maintained with little or no fluctuation because of the demand of local refineries and the steady decline in production; the price was unusually high and controlled, to some extent, by the price at which California crude could be brought to Tampico to replace the local product.

The price of Panuco crude experienced great fluctuations during the year, being much higher during the first half of the year than during the last, when a sharp decline was experienced; a steady rise was noticed, however, during the last two months of the year.

An important event in the marketing of oil in Mexico was the selling campaign of refined products in Mexico City and important centers by the Huasteca Petroleum Company, giving rise to a keen competition between it and the Aguila and Pierce Companies. Another important factor was the decision of the National Railways of Mexico to drill for oil in an effort to supply their own needs, which resulted in their obtaining to date a daily production estimated at 10,000 barrels.

Mexican oil taxes, being based on the price of bunker oil in New York, increased with said price during the first three months of the year and maintained the increase during April, May and June, but there was a decline during the balance of the year. The latest quotations applying to the month of January, 1924, give the following approximate figures: 25 U. S. cents per barrel for light crude; 15 cents for heavy crude; 21 cents for fuel oil, and 52 cents for crude gasoline. These total taxes are divided into the export tax, which is pledged to redeem Mexico's foreign obligations, and the production tax, the proceeds of which go into Mexico's treasury. The export taxes do not vary, while the production tax varies with the price of bunker oil at New York harbor. The export tax on light crude is approximately 8 cents per barrel, 5 cents on heavy crude, 6⅓ cents on fuel oil, and 30 cents on crude gasoline.

Conditions during the past year and the present trend of development (without taking into consideration the effect of political disturbances) indicate that the production for 1924 will equal if not surpass that of the past year.

It is expected that the flooded southern fields will continue to decrease in production but in a more gradual trend than in 1923; there is also the possibility of a marked increase in light-oil production should an extension to the "Knife-Edge" be discovered early in 1924.

It is probable that the average production of the Panuco district, or rather of the Cacalilao pool, will continue at its present level and possibly increase during the year.

As the storage capacity of Mexico is greatly in excess of present requirements and as the oil in storage, except during local emergencies, has for some time remained close to 20,000,000 barrels or about 2 months' supply, there is every indication that these conditions will remain without marked changes throughout 1924.

With the decline in production in California and the corresponding higher prices, it is estimated that in order to keep the Mexican refineries working to capacity, if the local production is not able to take care of the demand, it will be necessary to continue the import of oil from the United States provided prices in the United States justify such a procedure; this should tend somewhat to strengthen and maintain throughout the year the prices of both the Mexican light and heavy crudes.

Regarding the outstanding political event in Mexico during 1923, which was the disintegration early in December of the political triumvirate formed by President Obregon and Secretaries de la Huerta and Calles, and the subsequent military disturbances that threaten to keep the country in turmoil for indefinite time, the writers believe that this development, both as affecting the oil industry and the political situation of Mexico, are the forerunners of more stable and greatly improved conditions in the not distant future.

Monongahela Tube Company Opens Office in Houston

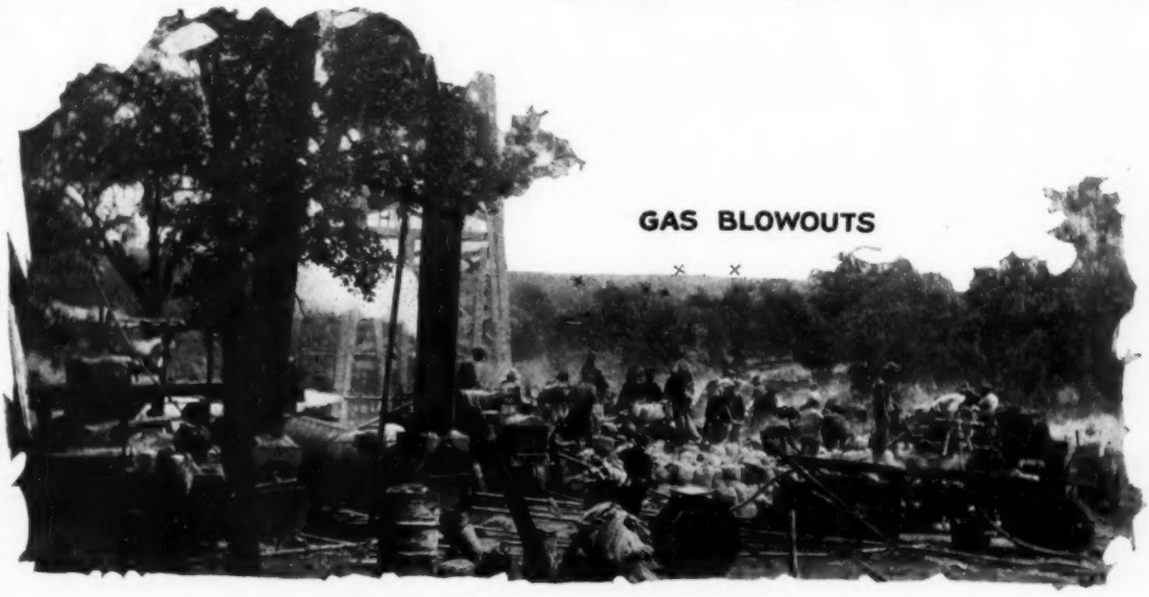
Pittsburgh, Pennsylvania, July 14.—The Monongahela Tube Company of Pittsburgh, Pennsylvania, announces the opening of a district sales office at 425 West Building, Houston, Texas, under the direction of Craig Geddis. Mr. Geddis will have charge of the sale of the company's oil country tubular goods and boiler tubes in the states of Texas, Louisiana, and Arkansas.

Celite Bulletin on Insulation

"The Insulation of Oil Storage Tanks" is the title of a bulletin recently issued by the Celite Products Company. The bulletin takes up the causes of evaporation, the fundamental requirements of insulating construction, types of tanks, general construction plan for circular tanks and other types of tanks, giving instructions and details about Celite insulation products.

Copies of the bulletin may be obtained from either of the following addresses: Celite Products Company, 53 W. Jackson Boulevard, Chicago, Illinois; 314 West Building, Houston, Texas, or Monadnock Building, San Francisco.

IF YOU BELIEVE IN INSURANCE YOU BELIEVE IN OIL WELL CEMENTING



When SPEED Spells the Difference Between SUCCESS and FAILURE

What Scientific Oil Well Cementing Does

- Withstands External Pressures
- Protects Against Corrosion
- Protects Against Shifting Formations
- Prevents Migration of Fluids
- Protects Upper Sands
- Protects when Shooting
- Provides Strong Seat
- Allows Pulling of Extra Strings
- Mends Leaks in Casing
- Prevents Gas Blowouts

A wild gas well in the Graham, Oklahoma, field—a well so "wild" that twenty craters scattered a quarter of a mile to half-mile from the well itself were discharging the gas!

Four thousand sacks of cement, three thousand pounds of chemicals and two tons of cottonseed hulls to be mixed and deposited in place in that short period between the time that the water is first put on the cement and the time the initial set takes place!

Four Halliburton outfits, each manned by a force of specially trained workmen, were sent to the job. In one day's time they had completely killed the well!

If you believe in ordinary insurance, you also believe in scientific cementing of oil wells. But by all means, when you do cement, be sure that the work is in competent hands. The Halliburton process has earned the leadership it enjoys in this field by reason of the experience gained in cementing more than 4000 wells, covering every imaginable cementing problem. The most advanced method of oil well cementing ever discovered—the Perkins process (known ordinarily as the two-plug process, but covering also the use of one plug)—is controlled in the Mid-Continent by Halliburton. The only sure means of knowing at all times the exact location of the column of cement in the hole (an important matter) is the patented Halliburton measuring tape used exclusively in connection with the Halliburton method. Halliburton equipment is available for all fields.

Write us today for full details with cost figures on your cementing problems

ERLE P. HALLIBURTON

Recognized Leader in Scientific Oil Well Cementing

DUNCAN, OKLA.

HALLIBURTON PROCESS

of Scientific Oil Well Cementing

Say you saw it in The Oil Weekly

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny things is gittin pretty bad in the oil bizness for geeologistis on account of the overproduckshun of oil whitch yu hav mabe herd about even down 2 goose creek along with sum roomers about po-ration of runs. well that is just where a man of menny parts like I am cumes in good. when geologizin gits bad on account of the market I can tern mi unrivaled talents 2 mi side line of inventer or mabe werk as a tax expert for awile till things gits rite for oil lokatin agin.

rite now it apeers that it aint no trubbel 2 lokate moar oil than ennybody can use. I gess the werld is gittin so slick that it dont need no greece & the gasoline consumpshun has fell off on account the cuntry rodes is so good that peepul whitch uster spend there evenins ridin up & down mane street can now run out in the country in comfort & park along the rodes. if sum skeem cood be werked up 2 put street lits all along the roads it wood make a increes of fifty (50%) per centum per nite in the consumshun of gasoline & also automobeel oil.

but what I started out 2 tell yu about was po-ration whitch is gittin 2 be a summer habit in the oil bizness. yu bein a woman yu can probly not understand what po-ration is, so I will tell yu. in the first place they call it porations because it makes the perducers pore.

& the way the skeem werks is this. well the big co's is got sents about how mutch oil it is when it is 2 mutch & the law of supply & demand says 2 cut the prise. so then they git reddy 2 cut it & about that time bill gray rases up & cummenses 2 makin speeches about them littel wells. hunny I shore do wisht yu cood here bill talk about them little wells of hisn. if the teers he has in his voice was reel teers it wood be a flood of salt water moar than has ever bin perduced at goose creek.

so then the purchasin co's says well 2 satisfy bill we will not cut the prise yet & will let the boys whitch is bringin up the oil down lite.

so then what do they do? well they say 2 the boys we will buy sum of yore oil from yu now & we will put the rest of it in the tanks & yu can pay us sum storage per month for us keepin it fer yu & then yu will hav it when yu get reddy 2 sell it. only we are not goin 2 cut the prise now. well that werks for awile & then all of a sudden it cums winter time & the prise of oil goes down & then the boys all sells for the new low prise less the storage charges. & then the next thing yu no the prise goes up agin & evryboddy is happy & bleeves that it aint gonter rain no more no more. now I have explane it 2 yu eveen a woman what aint got mutch sents about bizness can understand why they call it po-ration.

but in the meentime an in between times when it is anny demand for me in mi perfessional role as a finder of oil feelds whitch it aint nobody wants none found & sum wishes they cood lose some, I am going 2 put mi atenshun 2 inventin agin. ennyhow inventin is a good easy job for the summer time when it is hot wether on account yu can stay on the shady side of the house 2 do yore thinkin whitch is the manest part of inventin things just the same like ritin a book. & it makes a hit with the landlady 2 if yu say yu r thinkin & wood rether not be disturb while yu are loafin around the house.

what I am plannin on now is a vest pockit edishun of a rotry drillin rig whitch is gettin 2 be all the rage on account of drillin shaller holes huntin formashuns. I aint mutch for that ideer of huntin oil on account I can pass on a track of land & say whether or not it is oil under it & when they start drillin they miteswell start the pipe line because if I say it is oil there it is.

but hunny that aint neether hear nor their. If the peepul want a portable drilling rig made they is entitle 2 a good one & as inventer 2 the oil trade it is mi dooty 2 make 1 for them that will do the work with as little greef as is possible, & mi past record is that when I make a invenshun like that it will be heavy on the able.

so hunny if I was 2 fergit 2 rite 2 yu for the next cupple weaks yu can no that I am usin all mi branes on makin a drillin mashine whitch will drill a hole about 1000 feet in less time than it takes 2 put up a derrik. I am goin 2 use a ford truck for power & for movin the masheen around. ennybody whitch does not no as mutch about masheenry as I do wood say that it can not be did, but I hav werked out a systum of cog wheels whitch multyplyes the power from the engine so mutch that the manest trubbel will be holdin it down when she gits started. how cum I found out about this arangement of cog wheels was I tooken the clock off of mi seesmoregraft masheen 2 sea if I cood make it run & when I gotten it all apart I found out that I had plenty of stuff 2 make me a model of a drillin rig.

hunny I will tell yu the sekret of it before I git it patent, but dont yu tell nobody so they can beet me 2 it. well the hole outfit is made along the same lines as a alarm clock, only just big enuff to fit on the back of a ford truck. the rotry table fits rite in 1 nthe place of the minnit hand in the middle & the cogs whitch runs the hands makes the power for drillin. then the second hand macheenry runs the pump whitch is bilt rite in2 the macheen& the part whitch makes the alarm ring will be the draw works. then all it is left to use will be the hour hand whitch will be used 2 e-wreck the derrik whitch will be a iron outfit whitch will be hauled along behine the outfit like a traler.

all I hav got 2 figger out now is how 2 put all them things togetner so it will work. yu no yoresen that it will develop the power on account yu hav wind up a clock & seen how long it will run just from that. & if it was moar power of corse it would run faster & more longer, whitch is the skeem I am now werkin out how 2 make it do it.

well cleo hunny I gess that is enuff about bizness & yu want me 2 rite sumthin about me & mi persnal affairs aside from tellin yu how good peepul say I am for a geeologist & inventer.

well mi case agenst the old man has run up agenst a snag for a little while on account mi lawyer is runnin for the legislashure & does not want 2 show his hand 2 the old man rite now on account he wants him 2 vote for him & all the old man's frends also. yu sea the old man uster be justise of the peece & has quite a politikal follerin in them parts. but mi lawyer rites 2 me that as soon as he gits elected he will precede with the case & in the meentime the old man is spendin so mutch munny that is mine that when I git mi rites in the case he will owe me so mutch that I will just take over the hole shootinmatch & then I gess he will lern sumthin. Then I will git a chanct 2 make him feel cheep for the way he has done me.

& speekin about politicks, I gess mabe the news has got 2 goose creek bi now that they finly got the nomynashun for a demykrat president over. Mr. Davis is mabe a pretty good pres. but he will not take the office for a while yet. I do not no him personel so I do not no if it is enny chanct for me 2 git a job with him or no. ast your maw if she wood like 2 be postmaster at pelly in case I can get mi influents 2 workin with the new administration when it starts.

mi old frend pat neff is just back from the new york convenshun & I aint herd from him yet about the rr comishun job whitch is open, but I am espectin him 2 send for me 2 cum up 2 austin 2 talk it over with him about who wood be a good man for the place & I hav not made up mi mine if I will ascept it or not.

well hunny I will close hopin 2 sea yu soon. rite 2 me often but yu need not 2 call me up unlessen it is importent on account the land lady is gittin soar about the size of the bill & she wood be soarer than that onli she thinks I am talkin 2 goose creek about sum oil bizness.

yore lovin paul

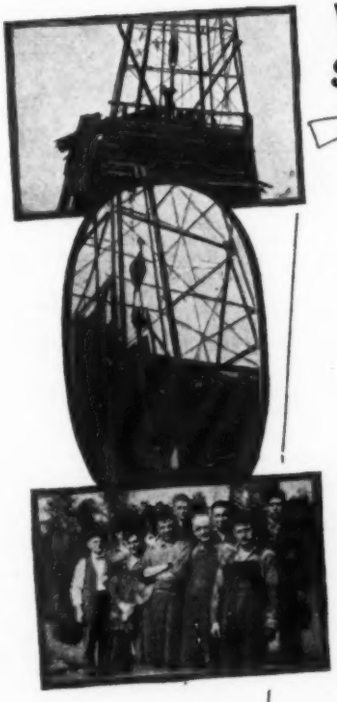
FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
FOR ALL PURPOSES
it must be DUNN

DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

They smash records — But not PIPE!

World Champions for almost a score of years and further in the lead than ever before



THE PURE OIL COMPANY

PRODUCERS, REFINERS AND MARKETERS

CENTRAL OHIO PRODUCING DIVISION
NEWARK OHIO

Dec. 31st, 1923.

Dunn Manufacturing Co.,
Oxnard, Cal.,

Dear Sirs-

We had occasion to pull 4500 feet of 6 5/8 inch 26 pound casing. White lead had been used on the joints of this casing, and when we undertook to break same, the tongs we were using, pulled in the pipe.

We discarded the old tongs and tried a set of Dunn tongs which we used in pulling the whole string. After commencing to use the Dunn tongs, we did not spoil a joint of the casing, and in breaking the joints it was necessary to use the engine.

We also handled the above string with the Dunn single bail elevators. I can heartily recommend both of the above tools, as money and labor saving devices.

Very truly,

Supt.
Central Ohio Division
THE PURE OIL COMPANY

DUNN TONGS

DUNN MANUFACTURING CO.

Oxnard, California

Cable Address: "Dunoiltool" Oxnard, California

All Standard Codes

Correspondence in all Languages

OIL WELL PATENTED DUNN TOOLS

TRADE MARK REG.

Axelson wins in a walk!

Mr. Bert Young, Superintendent of the Iowa-Kansas, tells about his experience with Axelson Pumps (working barrels). The Company, of which Mr. Charles Suiter, Davenport, Iowa, is President, maintains one of the neatest leases in the State of Kansas.

Leaders

Dreadnaught Rotary Equipment—Complete Cable Tool Equipment—Reid Gas Engines and Powers—Donovan Boilers—Roebling Wire Lines—Whitlock Cordage—F-R Electric Light Plants—Axelson Working Barrels and Sucker Rods—National Transit Steam and Power Pumps—Jones and Laughlin Tubular Goods—Ratigan Beam Hangers, Sure Grips, etc.—Camel Hair Belting—F-R Drilling and Pumping SERVICE Belting—Warren Steam Engines—Johns-Manville Packings—Etc.

Iowa-Kansas Development Company

Davenport, Iowa

Field Office Gridley, Kansas.
April 9th, 1924.

H. L. Mobley, Local Store Manager,
Frick-Reid Supply Company,
Gridley, Kansas.

Dear Sir:

I believe you fellows will be glad to know about our experience with your Axelson Working Barrels.

We installed a 2" Amco Plunger Pump in our W.P. Headley #6 Section 29 on September 30th, 1922, and it has not been out of the hole since installed on the above date. It is still going good and giving perfect satisfaction.

We installed a 2" Regular Axelson Working Barrel in another well on April 28th, 1923. Up to date it has not been pulled, and there is no indication that it will ever be necessary to pull it.

We have these Axelson Working Barrels in four other wells, and none of them have been pulled.

I have tried a lot of Working Barrels in my time, but I have not found anything that would hold a candle to these Axelson Pumps. We are still using other kinds of barrels, but every time it is necessary to pull one, we replace it with an Axelson. It is real economy, and it gives a fellow great peace of mind.

If you ever have a hard time getting a prospect started on these working barrels and want to tell him about our experience - hop to it.

Very truly yours,
Bert Young
Superintendent.

The Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

In Oil Country Equipment—the most HUMAN organization in America

SQUEAKS from the BULL WHEEL

Edited by J. Kent Ridley

A physiologist came upon a hard-working Irishman toiling, bareheaded in the street.

"Don't you know," said the physiologist, "that to work in the hot sun without a hat is bad for your brain?"

"D'ye think," asked the Irishman, "that Oi'd be on this job if Oi had enny brains?"

Faithful Henry

"Henry," said his employer sternly, " you didn't expect me back this morning?"

"No, sir," said Henry.

"I suppose that you are aware that when I came in I caught you kissing the stenographer?" And his employer glared at him angrily.

"Yes, sir," replied Henry, without blushing, "but, if you remember, sir, you told me to be sure and do all your work while you were away."

Its Identity

"What do you suppose is in the package that fellow over there is carrying with such an attempt at secrecy?" asked the guest.

"I kinda guess," replied the landlord of the Torpidity Tavern, "that he had paid a visit to a bootlegger and is now carrying his life in his hands."

Poor Old Teacher

A teacher was explaining to her class the difference between "abstract" and "concrete" and was endeavoring to make her explanation simple and clear.

"Now," she said, "concrete is something you can see and abstract is something you cannot see."

Willie looked quite enlightened, so teacher ventured to test her explanation. "Willie," she said, "give me an explanation of something concrete."

"My pants," said Willie.

"Correct," said teacher, gratified, "and now something abstract."

"Yours," was Willie's response. Willie stayed in that afternoon.

Circumstantial Evidence

Willie and Jack were two youngsters pugilistically inclined.

"Aw," said Willie, "you're afraid to fight; that's all it is."

"Naw, I'm not," protested Jack. But if I fight, my ma'll find it out and lick me."

"How'll she find it out, eh?"

"She'll see the doctor going to your house."

Squeaky News—or is it?

Omaha, Neb.—Brother Charley Bryan announces that he will not mention gasoline during the campaign. This is in line with a gentleman's agreement with the opposing vice presidential nominee that oil is not an issue in this campaign. Under this arrangement General Dawes will have the exclusive privilege of telling the farmers in the middle west that he has always used his influence with his brother in keeping gasoline prices low. Under the agreement between the candidates, however, this point will only be touched upon in answer to a direct and personal question from an individual voter.

Los Angeles, Calif.—Edward L. Doheny denies emphatically that W. G. McAdoo's trip to Europe is in the interest of the Doheny interests. However, Mr. Doheny says that he will highly recommend the gentleman to any oil company needing professional services between presidential campaigns and congressional investigations.

Pullman, Nebfla. — William Jennings Bryan will not ask any more legislatures to pass laws depreciating evolution. The convention in Madison Square Garden made a monkey out of him and he is now convinced that it is a poor rule that won't work both ways.

Personal Notes—Miss Ophelia Typer spent her vacation in the hospital having her appendix removed. She says that spending her vacation funds in this manner rather than for railroad fare means that she had a good rest and had an experience that will serve for conversational purposes the rest of her life.

Bert Windblower, amateur saxaphonist, has been arrested. But it was on a charge of making home brew so he will not be given the punishment his neighbors unanimously believe he deserves.

Red Smith, driller, spent his two-weeks vacation digging postholes for a new fence around his father-in-law's pasture. He returned to his rig much refreshed by the diversion.

Graves Brothers' Dictionary

The following thirteen definitions of oil field terms were prepared on Friday the Thirteenth by Graves Brothers, drilling contractors of Corsicana, Texas. If, after reading them, any driller wants to send us a definition of a drilling contractor, we will be glad to print it, provided it is fit for this family page.

Boulder—A word which drillers put in the log occasionally to break the monotony, and to account for the time lost while sleeping.

Broker—A very busy chap called by that name, although the final "r" is usually unnecessary.

Chalk—That portion of a hole in Central Texas which registers 600 feet above the bottom.

Driller—A male biped who would starve to death if his salary were no greater than his learning.

Dry-hole—Grand Old Nature's favorite prescription for making a man forget his other troubles.

Gumbo—A stratum the drillers report when they have hit everything else and don't know what they are in.

Gusher—A big producer completely surrounded by offset wells; also a sleep-destroying form of wealth which makes the big companies start after the owner's scalp.

Sand—A substance that men and oil wells need in Texas if they are to be successful.

Shale—A soft stuff which some folks use to make bricks, some to make mistakes and others to make millions.

Structure — Something that skids every time a dry hole is found on it.

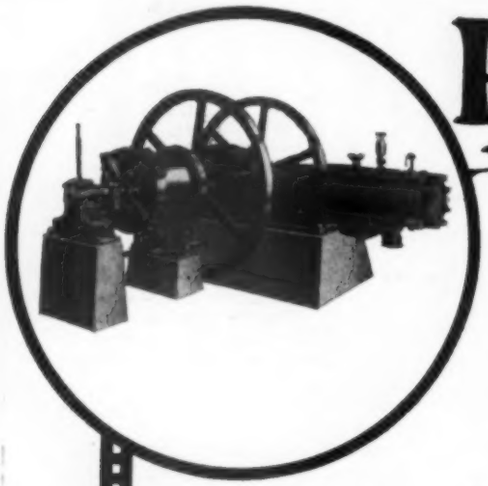
Surface — The ulace where hypocrites carry their good qualities and stock companies start dry holes.

Water—A clear, limpid fluid which turns black when a rough-neck dips his hands into it.

Water, salt — The ghostly white spectre which haunts the spots where geologists have worked the hardest.

Here's a story almost any member can use in addressing the Christian Endeavor or other organizations:

"I once steered a raft down the Mississippi River. It went along delightfully with the current; but I didn't meet any rafts going upstream—they were all steamboats."



FRANKLIN
VALVELESS GAS ENGINES

There are indeed very few gas engines of which can be said they have "never been down one minute for repairs."

The particular FRANKLIN alluded to had been seeing steady service for more than three years when that testimony was made.

Type "S" Reversible Clutches

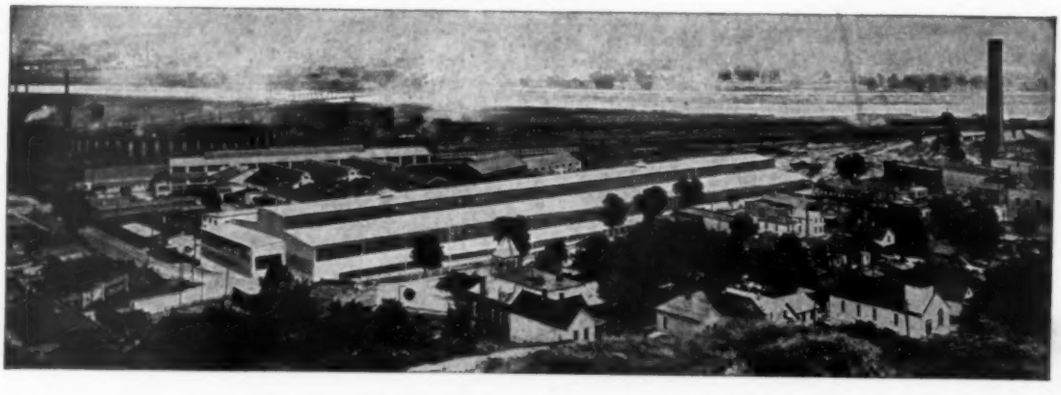
Of three port, two cycle valveless construction, with perfect lubrication and fewer parts than any other typical gas engine FRANKLINS stand up year after year with efficient smooth, steady performance. They are the real oil field engine.

Let us prove it by sending you our latest bulletin.

FRANKLIN VALVELESS ENGINE CO.
Franklin - Pa.

Distributed in Oklahoma, Kansas, Texas, Louisiana and Arkansas by: ATLAS SUPPLY COMPANY, MUSKOGEE, OKLA., and branches. Also INTERNATIONAL SUPPLY COMPANY, TULSA, OKLA., and branches. West Virginia by: NEW MARTINSVILLE SUPPLY COMPANY, NEW MARTINSVILLE, W. VA.

"WRITE FOR OUR CATALOG"



The Largest and Most Modern Steel Plant in the West—

This modern, up-to-date plant backed by a warehouse stock of Ten Thousand tons and a fabricating capacity of 5,000 tons per month assures 2nd and 3rd morning delivery to Oklahoma and Northern Texas; 5th and 6th morning delivery to Gulf Coastal Points.

Kansas City Structural Steel Company
KANSAS CITY, U. S. A.

Tulsa, Okla. Dallas, Texas Denver, Colo.

Say you saw it in The Oil Weekly

GUIDE FOR PURCHASERS

Air Compressors—
Continental Supply Company
Southern Engine and Pump Co.

Air Lift Pumping Equipment—
Sullivan Machinery Co.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
Bradford Motor Works
Continental Supply Company
The Chas. N. Hough Mfg. Co.

Band Wheels—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Banks—
Commercial National Bank

Belting—
Bridgeport Machinery Company
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stanley Belting Corp.
Voorhees Rubber Co.

Boilers—
Bridgeport Machine Co.
The Brownell Co.
D. F. Connolly Agency
Continental Supply Company
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Company
Regan Forge & Engineering Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Blowout Preventer—
Baash-Ross Tool Company
Cameron Iron Works
Continental Supply Company
Regan Forge & Engineering Co.

Burners—
Continental Supply Company
Gaso Pump & Burner Mfg. Co.
Gould Burner Co.
Regan Forge & Engineering Co.

Bull Wheels—
American Steel Rig & Reel Co.
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Calf Wheels—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Casing—
Continental Supply Company
David L. Schofield
Oil Field Salvage Co.
Regan Forge & Engineering Co.
Republic Supply Company
Superior Tube Co.

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Company
Gulf Coast Machine & Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Co.

Cement Hardener—
The Sullivan Co.
W-K-M Co.

Chains—
Link Belt Co.

Compressors—
Butler Mfg. Co.
Continental Supply Company
F. W. Heitmann Co.
Hope Engineering Co.
Sullivan Machinery Co.
United Iron Works, Inc.

Control Heads—
Continental Supply Company
Palmer Specialty Co.
Southern Brass Mfg. & Plating Co.

Core Drills—
Elliott Core Drilling Co.
Spengler Core Drilling Co.

Cordage—
D. F. Connolly Agency
Continental Supply Company
The National Supply Cos.
Republic Supply Company

Crown Blocks—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Supply Co.
Continental Supply Company
Gulf Coast Machine & Supply Co.
International Derrick & Equipment Company
Lufkin Foundry & Machine Co.
Oil City Iron Works, Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Continental Supply Company
Harrisburg Pipe & Pipe Bending Company
Steel Coupling Co.
Superior Tube Co.

Dehydrating Processes—
W. S. Barnickel & Co.
Petroleum Rectifying Co.

Derricks and Rigs—
American Steel Rig & Reel Co.
International Derrick & Equipment Company
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Superior Tube Co.
Wertzberger Derrick Co.

Diamond Core Drills—
Sullivan Machinery Co.

Disc Bits—
Continental Supply Company
Rotary Disc Bit Co.

Ditchers—
Buckeye Traction Ditcher Co.

Draw Works—
American Well & Pros. Co.
Continental Supply Company
Lufkin Foundry & Machine Co.

Drilling Cables—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
Frick-Reid Supply Co.
F. W. Heitmann Co.
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Company
Williamsport Wire Rope Co.

Drill Pipe Slips—
Baash-Ross Tool Company
Continental Supply Company

Drilling Machines—
Bridgeport Machine Co.
Continental Supply Company
Keystone Driller Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Drill Collars—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe Cutting—
Baash-Ross Tool Company

Drilling Tools—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe—
Continental Supply Company
Frick-Reid Supply Co.
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.
Superior Tube Co.

Drilling Equipment—
American Well & Pros. Co.
Baash-Ross Tool Company
Bridgeport Machine Co.
Continental Supply Company
Republic Supply Company
Western Supply Company

Drive Pipe—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Electrical Equipment—
Westinghouse Elec. & Mfg. Co.

Elevators—
Bridgeport Machine Co.
Continental Supply Company
The Cunningham Company
Dunn Mfg. Co.
Gulf Coast Machine & Supply Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
Continental Supply Company
The Braden Co.
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Oil—
Continental Supply Company
Frick-Reid Supply Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
American Well & Pros. Co.
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Continental Supply Company
The Brownell Co.
De La Vergne Machine Co.
C. C. Fetty & Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Company
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Company
Rock Island Plow Co.
Southern Engine & Pump Co
Titusville Iron Works
Western Machinery Company

Engineers—
A. C. Bierman
C. N. Black
Samuel J. Caudill
David Donoghue
C. C. Fetty & Co.
Foster & Reiter
F. W. Freeborn Engineering Co.
E. F. Kuehnle
Geo. C. Matson
Lee C. Moore & Co.
Oil Conservation Engineering Co.
L. H. Owen
D. T. Ring
Southern Blue Print & Supply Co.

Fire Protection—
Continental Supply Company
Oil Conservation Engineering Co.

Fish Tail Bits—
American Well & Pros. Co.
Continental Supply Company
Frick-Reid Supply Co.
Gulf Coast Mach. & Sup. Co.
Lurey Manufacturing Corp.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
Continental Supply Company
Dunn Mfg. Co.

Fuel Oil—
Gulf. Ref. Co.
Sinclair Ref. Co.

Gas Traps—
Continental Supply Company
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
Continental Supply Company
Bessemer Gas Engine Co.
Sullivan Machinery Co.

Gasoline and Oil Storage Tanks—
Butler Mfg. Co.
Graver Corporation
Continental Supply Company
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.

Gauges—
Continental Supply Company
The Foxboro Co., Inc.
Oil Conservation Engineering Co.

Gauge Boards—
The Foxboro Co., Inc.

Genuine Wrought Iron Casing—
Reading Iron Co.
Superior Tube Co.

Geologists—
A. C. Bierman
Samuel J. Caudill
Alexander Deussen
David Donoghue
Edwin B. Hopkins
Foster & Reiter
Geo. C. Matson
L. H. Owen
Herald Bros.

Grips and Clamps—
Continental Supply Company
J. P. Ratigan
W-K-M Co.

Heat Exchangers—
Borwn Welding & Machine Co.

Hoists—
Alamo Iron Works

Hose—
Continental Supply Company
D. F. Connolly Agency

Houses—
Crain Ready-Cut House Co.

Hydrometers—
The Braun Corp.

Laboratory Equipment—
Continental Supply Company
Fort Worth Laboratories

Lease Equipment—
The Braden Co.

Lighting Systems—
Bridgeport Machine Co.
Continental Supply Company
R-F Electrical Mfg. Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Manufacturers—
Robinson Packer Co.

Maps—
Heydrick Mapping Co.
Standard Blue Print, Map & Engineering Co.

Meters—
Continental Supply Company
The Foxboro Co., Inc.

Motors—
Westinghouse Elec. & Mfg. Co.

Oil Field Supplies—
American Steel Rig & Reel Co.
American Well & Pros. Co.
The Braden Co.
Bridgeport Machine Co.
Butler Mfg. Co.
Continental Supply Company
D. F. Connolly Agency
The Cunningham Company
C. C. Fetty & Co.
Frick-Reid Supply Co.
Graver Corporation
Gulf Coast Mach. & Sup. Co.
Erle P. Halliburton
International Supply Co.
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Manufacturing Corp.
The National Supply Cos.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Regan Forge & Engineering Co.
Robinson Packer Co.
H. M. Spence
Smith Separator Company
Southern Brass Mfg. & Plating Co.

GUIDE FOR PURCHASERS—Continued

Oil Field Supplies—(Cont.)
Superior Tube Co.
United Iron Works, Inc.
W-K-M Co.
Western Supply Company

Oil Stills—
The Braun Corp.

Oil Thieves—
The Braun Corp.

Oilwell Casing—
Continental Supply Company
Frick-Reid Supply Co.
Republic Supply Company
Superior Tube Co.
Texas Pipe & Supply Co.

Oil Well Cementing—
Erle P. Halliburton

Overshots—
Baash-Ross Tool Co.
Continental Supply Company
LeBus Rotary Tool Works

Packers—
Continental Supply Company
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Western Supply Company
W-K-M Co.
Exner-Dodge Packer Co.

Packing—
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company

Paints—
Continental Supply Company
Peden Iron & Steel Co.

Panel Boards—
Westinghouse Electric & Mfg. Co.

Patents—
Hardway & Cathey
Jesse R. Stone

Pipe Grips—
Continental Supply Co.
W-K-M Co.

Pipe—
A. M. Byers Co.
Continental Supply Company
W. E. Detlor
Frick-Reid Supply Co.
F. W. Heitmann Co.
Harrisburg Pipe & Pipe Bending Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Company
David L. Schofield
Superior Tube Co.
Standard Seamless Tube Co.
Williamsport Wire Rope Co.

Pipe Screwing Machines—
California Pipe Line Machine Co.
Buckeye Traction Ditcher Co.

Pipe Wrenches—
Continental Supply Company
Dunn Mfg. Co.
The Guiberson Corp.
LeBus Rotary Tool Works
Republic Supply Company

Plunger Rotor
Sargeant Engineering Co.

Polish Rod Grips—
Sargeant Engineering Co.

Portable Buildings—
Butler Mfg. Co.
International Derrick & Equipment Company

Portable Compressors—
Continental Supply Company
Sullivan Machinery Co.

Portable Drilling Rigs—
Bridgeport Machinery Co.
Continental Supply Company
Lee C. Moore & Co.
Oil Well Service Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pullers—
Davis & Kuhns

Pulleys—
Continental Supply Company
Davis & Kuhns
International Derrick & Equipment Company
Lee C. Moore & Co.

Pulling Machines—
Clark Machine Co.
Continental Supply Company
Iron King Mfg. Co.
Myrick Machine Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
American Well & Pros. Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
C. C. Fetty & Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Lucey Manufacturing Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

Pumping Powers—
The Braden Co.
Continental Supply Company
C. C. Fetty & Co.
Frick-Reid Supply Co.
Foster-Hoefer Corp.
Jensen Bros. Mfg. Co.
Kansas City Hay Press Co.
H. M. Spence

Refined Products—
Gulf Refining Company
Humble Oil & Refining Co.
Sinclair Refining Co.
Sunshine State Oil & Ref. Co.

Recorders—
Fort Worth Laboratories
The Foxboro Co., Inc.

Refinery Equipment—
Butler Mfg. Co.
Continental Supply Company
Gardner Governor Co.
Graver Corporation
Kansas City Struct. Steel Co.
Oil Conservation Engineering Co.
Republic Supply Company
Smith Separator Company
Titusville Iron Works
United Iron Works, Inc.
Wyatt Metal & Boiler Works

Rig Building—
Producers Lumber Co.

Rig Irons—
Continental Supply Company
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Company

Rig Timbers—
D. D. Wertzberger

Rotary Rock Bits—
Continental Supply Company
Hughes Tool Co.

Rotary Fish Tail Bits—
Continental Supply Company
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Co.

Screens—
Pacific Oil Tools Co.

Sectional Steel Buildings—
The Braden Co.

Separators—
Butler Mfg. Co.
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Standing Valve Puller—
Sargeant Engineering Co.

Structural Steel—
Butler Mfg. Co.
Kansas City Struct. Steel Co.
Pennsylvania Tank Car Co.
United Iron Works, Inc.

Steel Derricks—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Superior Tube Co.

Steel Crown Blocks—
Continental Supply Company
Gulf Coast Mach. & Sup. Co.
International Derrick & Equipment Company
Lee C. Moore & Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Manufacturers—
Colonial Steel Co.

Steel Storage Tanks—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation

Strainers—
Continental Supply Company
Layne & Bowler Co.
Pelican Well Tool & Supply Co.
J. H. McEvoy & Co.
W-K-M Co.

Sucker Rod Lines—
D. F. Connolly Agency
Continental Supply Company

Sucker Rods—
Axelson Machine Co.
Continental Supply Company
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Co.
J. P. Ratigan
Republic Supply Company

Sucker Rod Sockets—
Bradford Motor Works
Continental Supply Company
Brown Welding & Machine Co.

Swabs—
Continental Supply Company
The Cunningham Company

Tank Bolts—
Continental Supply Company
Steel Mfg. & Warehouse Co.

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Columbian Steel Tank Co.
Continental Supply Company
The Brownell Co.
Ganta Tank Co.
Graver Corporation
Kansas City Structural Steel Co.
Maloney Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
Pittsburgh-Des Moines Steel Co.
United Iron Works
Wyatt Metal & Boiler Works

Tank Equipment—
Continental Supply Company
Oil Conservation Engineering Co.

Tank Gauge Engineer—
L. M. Hall

Temper Screws—
Burns Tool Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Thermometers—
Continental Supply Company
Fort Worth Laboratories
The Foxboro Co., Inc.

Tongs—
Bridgeport Machine Co.
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Company
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
Sullivan Machinery Co.
Western Supply Company
W-K-M Co.

Toothless Slips—
LeBus Rotary Tool Works

Tractor Winch—
American Steel Rig & Reel Co.
Rock Island Plow Co.

Traveling Blocks—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Continental Supply Company
Gulf Coast Machine & Sup. Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tubing Catcher—
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
Continental Supply Company
D. F. Connolly Agency

Tubing—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.
Superior Tube Co.

Underreamers—
American Well & Pros. Co.
Bridgeport Machine Co.
Continental Supply Company
Western Supply Company
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Company
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Company
Southern Brass Mfg. & Plating Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Company
Darling Valve & Mfg. Co.
D & B Pump & Sup. Co.
F. W. Heitmann Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
Continental Supply Company
Internaitnal Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Continental Supply Company
Imperial Brass Mfg. Co.

Working Barrels—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D & B Pump & Sup. Co.
Foster-Hoefer Corp.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Company
J. E. Shaffer Co.
F. W. Heitmann Co.

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Wire Line Clamps—
Western Supply Company

Wire Rope—
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
Houston Oil Field Material Co.
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Co.

Your Nearest Jarecki Store — Dependable Headquarters for

"Everything Used or Needed About an Oil or Gas Lease"

Main Offices and Factories

El Dorado, Kans.

Lawrence, Ill.

Mexia, Texas

Shidler, Okla.

Erie, Pennsylvania

A line capable of filling every need that may confront you, a price that only tremendous sales can make possible, and service that is always prompt, smiling and efficient are a few of the inducements that invite you to the nearest Jarecki store whenever you have an oil field need to fill.

When you call on a Jarecki store to supply your wants, you know that no products pass more exacting tests than the ones you are receiving; that no manufacturer is a firmer believer in the principle of "Quality First"; that no guarantee can give you greater protection than that issued by Jarecki with 72 years' reputation to uphold.

As an idea of the comprehensiveness of the Jarecki line, note the following:

We Are Manufacturers of:

Fittings—Brass, Malleable and Cast Iron. Iron Body Valves—All Kinds. Jarecki Gate Valves—Iron, Brass and Semi-Steel. Jarecki Cast Iron Working Barrels. Snow Plunger Pumps. Oil and Gas Well Supplies—All kinds. Pipe Threading Machines and Tools. Jarco Wire Line and Pumping Outfits. Jarecki Pump with Sand Trap.

We Are Agents For and Sell:

Nagle Steam Engines and Boilers. Oil Country Tubular Goods. Byers Iron Pipe. Fitler Manila Rope. Wire Drilling Lines, manufactured by The American Cable Co. Genuine Acme Sucker Rods. Jarco and Eureka Rubber Belt. "Dickbelt", the original Balata Belt. Snow Steam Pumps. Drilling Machines. Rig Irons. Derricks.

Standardize on goods made or handled by Jarecki because of the completeness of the line, the reputation back of it, the convenience of concentrating purchases at one point, and the money you save.

Jarecki

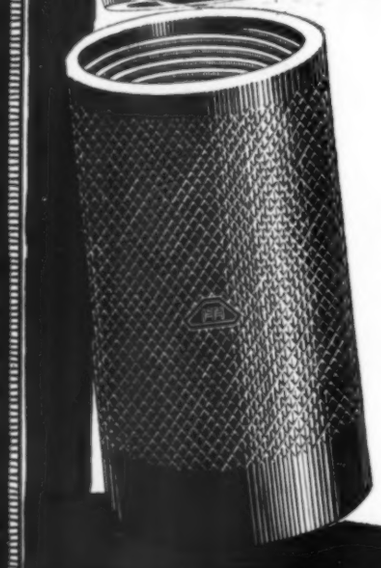
Manufacturing Company

ERIE, PA., U. S. A.

ST. LOUIS PITTSBURGH EL DORADO TULSA EASTLAND

After making 21 wells this string of

is still in good condition



Just another instance where

HUGHES TOOL JOINTS

prove the economy of superior quality.

Bass & Dillard's Rig No. 2, location 66 Oil Co.'s No. 4, Wilson D. Lease, Riner & Bailey Pool, Archer County, Texas.

Hughes Joints Cost You NO MORE— But Do Last LONGER

Sold by Supply Stores Everywhere.